The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. LIV, NO. 22 CHICAGO, ILLINOIS MAY 28, 1910

Original Articles

SUMMARY OF A TEN YEARS' CAMPAIGN AGAINST HOOKWORM DISEASE IN PORTO RICO

BAILEY K. ASHFORD, M.D.
Major, Medical Corps, U. S. Army
AND
PEDRO GUTIERREZ IGARAVIDEZ, M.D.
Director of the Service of Tropical and Transmissible Diseases of Porto Rico
SAN JUAN, PORTO RICO

For years preceding the occupation of Porto Rico by the United States, the anemia problem had been widely discussed here by writers of all professions, and public opinion concerning this deplorable condition is well expressed by a physician and literateur, who, writing in 1886, remarks:[1]

> To malaria, to the debilitating influence of a diet, limited in quantity and poor in quality, and to diseases produced by detestable hygienic defects, we can attribute the majority of the anemia of the Porto Rican peasant.

The author of the treatise above quoted was one of the first to acknowledge the parasitic cause of this anemia shortly after its announcement. But the public simplified its opinion further in succeeding years, laying more and more stress on the factor of insufficient food.

DEATHS UNDER SPANISH AND AMERICAN RULE

The number of deaths for the last five years of Spanish rule in the island was 130,207, with an average death-rate of 28.9 per thousand of population. Three thousand and sixty-two of these deaths were due to smallpox and yellow fever. The number of deaths for the first five years of American government was 159,312, with an average death-rate of 33.48 per thousand. Practically no deaths occurred after June 30, 1899, from smallpox, and none from yellow fever.

Thus in the ten years of American government, to 1908, the last statistics available, smallpox and yellow fever as factors in the death-rate have disappeared.

This enormous increase in the mortality incident to the first five years of American government is due to several causes:

1. In 1898 the war and change of sovereignty occurred and for several years a rather serious economic crisis was felt. Heavily mortgaged coffee plantations lost the high prices coffee commanded before our occupation, due to the exclusive tariff laws of foreign markets and at that very time (in August, 1899) a terrific hurricane wiped out a large portion of the coffee trees. This practically ruined a great part of the coffee planters. As coffee was the chief industry, and peons worked from hand to mouth on these plantations for a mere pittance, when disaster fell on coffee they were reduced to extreme poverty.

2. The endemic of uncinariasis which from time immemorial had been becoming more and more severe in the years preceding the American occupation, became very fatal in the midst of the privation and misery attendant on these disturbances of commerce and the elements. It seems to us that we have in the fact of poor and insufficient food, exposure, etc., a remarkable illustration of how, when resistance to disease is lowered in the life of a whole population, an endemic disease becomes a veritable scourge.

3. More important is another element, as yet but very incompletely discussed in Reports of the Porto Rico Anemia Commission. It is well-known that when eggs of the uncinaria fall on dry ground a tremendous number fail to develop and in those cases that do reach the larval or infective stage the larvæ promptly die in the absence of water which is essential to their life. Now uncinariasis in Porto Rico is a series of multiple infestations in the barefooted population and this infestation, we believe, is practically always accomplished through the healthy skin. There are certain places in the island where dampness is perennial and this depends largely on shade; hence, coffee plantations are apt to be, in spots, always infested. When, however, the sun shines long enough to dry the ground there is an enormous reduction in the infectivity of the soil in general. Ninety per cent. at least of the Porto Rican peasants in 1899 were worm-carriers and were generally so heavily infected as to be worm-sick. Soil pollution is a custom among them; 80 per cent. or more of the total population are guilty of this practice. From 1890 to 1899 about 15 per cent. of the total deaths were ascribed to "anemia." But in 1898 and 1899 the rains deluged the island at the very time that coffee culture was at its height and the ground was always wet. Hence the infectivity of the soil was immensely intensified and laborers in a weakened state, due to poor food, wretched shelter, etc., added dangerous fresh infestations to those already possessed. The result was a huge mortality immediately following the hurricane of 1899.

The total mortality for the period of seven months ending April 30, 1900, was 23,936, which is at the rate of 42 per thousand *per annum*.

In the months of October, November and December, 1899, the months immediately following the hurricane, the death-rate was 57, 58, and 49 per thousand per annum, respectively.[2] In addition to this the same authority commenting on the figures given states:

> The present rate of 42 per thousand would be reduced to 31 if we could eliminate the cases of anemia. . . . The causes to

1. Al paludismo, á las causas debilitantes de una alimentacion escasa y de mala calidad, y a'las enfermedades producidas por un regimen higienico detestable debemos atribuir principalmente la anemia del campesino puertoriqueño.

2. The above statistics are to be found in the report of the Superior Board of Health of Porto Rico, pp. 97 and 98.

which this condition is due are of such a nature as to affect the poorest people almost alone. It is well known that a large majority of the island's population is composed of peons, who are scattered over every portion of the country, living in unusually poor hovels, and subsisting on the merest apology for food. This is the class in which this large mortality occurs. It cannot be better shown than by comparing the death rate from anemia in the municipalities of San Juan and Ponce, with that in the municipalities of Utuado and Adjuntas. The former may be considered as inhabited by an urban population, while in the latter by far the greater portion is composed of the peon or poor class. Ponce and San Juan show a death-rate from anemia of 5 and 1 per thousand per annum, respectively, while in Utuado and Adjuntas the death rate is 24 and 32 respectively.

In concluding our remarks for the second five-year period let it be understood that the total mortality is even higher, as the first six months of 1900, with an unusually high death-rate, are not included, due to the change from the calendar to the fiscal year system in furnishing statistical data.

In the last two of the first five years of American government, (fiscal year, 1901-2 and 1902-03) the rains were less continuous and the anemia mortality (and consequently the total mortality) fell to its Spanish normal, minus the smallpox and yellow fever factor. In those first five years, in spite of great publicity given the discovery that the cause of the anemia was "hookworm," in spite of a pamphlet descriptive of the disease, issued as a result of that discovery by the Superior Board of Health of the then military government to all physicians, *practicantes,* and municipal governments in December, 1899, no credence was given the announcement; and this was entirely natural. There was apparently abundant proof that the miserable physical condition of the people was due to the concomitant factors of poor food and poverty, and an united people so explained it.

For this reason, of the 11,885 deaths from "anemia" out of 35,781 deaths from all causes in that year, not one single death was attributed to uncinarial anemia.

In the next five years of American government (1903-1904 to 1907-1908 inclusive) a remarkable change takes place. In 1904 the Porto Rico Anemia Commission began its work and it can be sincerely stated that the fall in mortality can be attributed almost entirely to the campaign of these five years against the disease, which more than all else has given a mortality far above what Porto Rico, a naturally healthy country, should have.

This is not to say that other diseases than uncinariasis do not contribute to a mortality, still unfortunately high. They do, but uncinariasis is still, *par excellence,* the reigning disease of Porto Rico.

In these five years 120,595 deaths occurred, a death rate of 23.33 a thousand a year. A summary of total deaths by five-year periods, taken from official records, is as follows:

TABLE 1

First Five Years.	Second Five Years.	Third Five Years.
1893....21,616	1898.....33,614	1903-04....22,694
1894....24,892	1899.....39,918	1904-05....23,050
1895....26,284	1900-01....35,781	1905-06....23,811
1896....25,435	1901-02....24,447	1906-07....27,060
1897....31,980	1902-03....25,552	1907-08....23,980
Totals..130,207	159,312	120,595
	Average Death Rate Per 1,000	
28.9	33.48	23.33

HISTORY OF THE WORK IN PORTO RICO

Now that at last the continent of the United States has awakened to a realization of the baneful presence of hookworm disease within its own borders and a prominent man of means has made possible the beginning of a campaign against this formidable enemy of industrial and agricultural activity, we, the members of the late Porto Rico Anemia Commission, feel it our duty to deliver to the Rockefeller Commission and the medical fraternity at large, a succinct account of the operations of our commission and its successor, "The Anemia Dispensary Service" in the Island of Porto Rico.

On Nov. 24, 1899, Dr. Bailey K. Ashford, of the U. S. Army, found the extremely prevalent and fatal anemia of the Island of Porto Rico to be due to hookworm disease. He was in charge of a large field hospital, in which were gathered the indigent sick of the cyclone of August of the same year, most of whom were pale, dropsical and debilitated. Not being able to make any appreciable effect on this anemia by abundant and rich food, he was convinced that there existed a common morbific cause, not only for the condition of these patients, but also for that of the great mass of anemics he had noted throughout the island.

He examined the blood of 20 patients at random, found eosinophilia a leading characteristic, and thus was led to examine the feces, where eggs were found which tallied in every particular with those described in Manson's "Tropical Hygiene," then issued to army medical officiers.

Not being a zoologist, Dr. Ashford contented himself with giving a full description of the disease,[3] his blood findings and an exposition of the dangers of the worm to the states from an economic standpoint, leaving to Dr. Charles Wardell Stiles, the recognized American authority on animal parasites, the purely zoologic description of the nematode.

Stiles, in 1902, working with Ashford's specimen of hookworms from Porto Rico, and with others from the United States, found subsequently, announced that zoologically the parasites belonged to a new species, *Uncinaria americana,* although later he changed the name to that which now obtains, *Necator americanus.* The new species, interesting from a zoologic standpoint, although the mode of infection, symptomatology, morbid anatomy, treatment and prophylaxis of the disease caused by the old-world and the new-world worms are, so far as we know, precisely similar, became of tremendous importance when Dr. Stiles demonstrated for the first time that hookworm disease was crippling the South just as Dr. Ashford had shown it to be the industrial curse of Porto Rico.

In January, 1902, Dr. Ashford after a careful survey of the literature of this disease in the Surgeon General's Library, returned to Porto Rico and immediately began with Dr. Walter W. King of the U. S. Public Health and Marine-Hospital Service, a complete study of 100 cases in the Tricoche Hospital, in Ponce. These cases were reported elsewhere,[4] giving blood-counts, histories and end-results of treatment up to date of publication. In this article it was shown that over 30 per cent. of the deaths in Porto Rico were charged to "anemia," and an earnest appeal was made to combat the disease that was the scourge of fully 90 per cent. of the agricultural laboring classes in Porto Rico, a class representing at least 600,000 souls out of a million population.

A strong editorial in *"American Medicine"* shortly after the appearance of this paper, coupled with the publication, through Col. W. C. Gorgas, then Chief Surgeon, Department of the East, of an official letter to the President of the Superior Board of Health of Porto Rico and an address at the annual meeting of the Medical Association of Porto Rico by Dr. Ashford, pointing out the vital necessity for combating the disease,

3. New York Med. Jour., April 14, 1900.
4. Am. Med., Sept. 5 and 12, 1903.

aroused the interest and concern of the Hon. Regis Henri Post, auditor for Porto Rico, and through him of the Governor, Hon. William H. Hunt. The latter recommended strongly the passage of a bill carrying an appropriation of $5,000.00 for the study and treatment of anemia in Porto Rico, which was favorably acted on by the legislature of Porto Rico in February, 1904, Mr. Post introducing the bill in the Executive Council. Drs. Ashford, King and Gutierrez were appointed members of the commission for this purpose, the War and Treasury departments ceding the services of the first two named. The War Department on request of the Surgeon General furnished a complete field hospital and innumerable scientific instruments and books.

This marks the first era in the work against hookworm in Porto Rico and was the first demonstration of its endemic presence on American soil, an endemic now so painfully evident in the South.

SYSTEMATIC WORK BEGUN

We began with only a handful of friends. The press thought it strange that hunger should be "discovered" to be due to a parasite and based its incredulity on serious economic crises, through which the island was passing and chiefly to the loss of foreign coffee markets. The well-informed and moderately well-informed people, whose circumstances protected them against the disease, as they were well shod, reasoned that as they were well *fed* they were perfectly protected against this "hunger-producing parasite," in contradistinction to the afflicted pale ones who were desperately poor and had to live on bananas alone. In short we had a difficult situation to meet. Had it not been for one saving clause we would have failed. That element was the poor man himself. He was so utterly miserable that he could not be more so and as he had faithfully embraced each and all promises to cure him of what he persistently called his "*enfermedad,*" (illness), in spite of the more refined explanation of his better educated compatriots he gingerly accepted our treatment.

The moment we opened our hospital the sick began to arrive. We had told the Governor we might treat 600 cases, but when considerably more than 600 had been treated in Bayamon in less than one month and a cured patient began to deposit his entire family and that of his neighbors at one morning clinic, it became evident that we had to move to some other town where we were not known, or succumb to force of numbers. We moved to Utuado, said to be the most hungry of all of the Porto Rican municipalities, with a population of 40,000. We rapidly reorganized our work to satisfy the demands we knew would come, and in spite of every care and outside assistance we were again overwhelmed with patients. They came from every barrio of the extensive municipality, afoot, horseback, and in hammocks. As soon as some notorious old anemic who had spent his last cent to buy iron pills would return to his barrio from our hospital cured, the whole barrio would swarm about our ears. On July 4, 1904, two members of the commission were ill and the one remaining handled a clinic of over 700 persons, each one of whom had to have a clinical summary of his case made out, a specimen of his feces examined and a prescription written, an unvarying rule in all the work done here so far. In addition, a prophylactic talk was administered and blood counts were made in the afternoon in special cases. Aside from this clinic, we had a field hospital of from 54 to 66 beds filled with patients registering from 8 to 30 per cent. hemoglobin, each one requiring medication of a special nature to meet special complications and intercurrent diseases of so profound an anemia.

Our plan was to leave Utuado for some other town in a month but we never got away. Certainly this work was none the easier for the two American members of the commission who had to contend with a foreign language, and a dialect at that, and with a people whose customs and modes of life were not well known, even by many educated Porto Ricans; nor was it at all less trying to Dr. Gutierrez who was taking his part in an unpopular work at the expense of his private interests. In five months, our $5,000 was spent and 5,049 cases had been treated, and we withdrew to San Juan to write the report of the work.

FIRST REPORT

This report which, together with those of succeeding years, was published by the insular government contained 234 pages of written matter in Spanish and English, with illustrations. It comprised, (1) a fairly complete history of the disease throughout the world, and of the commission's work in the five months' campaign; (2) a discussion of the parasite, its zoologic description and its life history, together with all possible predisposing causes for the profound anemia observed; the symptomatology, the pathogenesis, morbid anatomy and course, prognosis, and lethality, prophylaxis, diagnosis and treatment. An appendix to this report gives the details of 61 special cases, in which weekly blood records of hemoglobin, counts of red and white blood cells and differential counts of leucocytes are tabled. Also a synopsis of all deaths, of which there were but 27, or a total mortality of 0.49 per cent.

This report fully demonstrated the cause of death from "Porto Rican anemia" and finally relegated the matter of insufficient and improper food to the secondary place of a mere predisposing factor. It demonstrated beyond a reasonable doubt that uncinariasis was contracted through contact of the healthy skin with infested earth, the first practical demonstration on a large scale of Loos' beautifully clear laboratory experiments, and, above all, it convinced the people of Porto Rico that they were dying of a curable disease; that their entire laboring class was threatened with at least semi-invalidism, and that it could be successfully combated with a drug which had been hitherto unjustly accused in Europe of being a dangerous and unjustifiable remedy. The manner in which the Porto Rican people received this report does them fine credit, not at all understood or appreciated by outsiders, and sweeps away all the bitterness of five years of apparent indifference for which they were really largely excusable. From that time to the present this work has been loyally supported by larger and larger appropriations each year, made by the Legislature of Porto Rico.

In the year 1905-1906, we decided to have our central dispensary and field hospital, and administer from this unit as many sub-stations as our meager funds would permit. Recognizing that the highlands of Porto Rico were the most needy, Aibonito, a town in the mountains, was chosen, and around it were grouped in little towns the bulk of the sub-stations. Apart from these surrounding towns we placed one large station in Lares, a mountain town of the West, and one in Utuado, in the center of the island.

In four of our ten stations the town offered to bear all expenses if we would administer the work and furnish the medicines. The physicians volunteered their services. This alone will demonstrate the excellent spirit prevailing.

SECOND REPORT

Our second report contained 176 pages and reports 18,865 cases. It demonstrates that:

1. The keynote of the campaign looking toward an effective reduction of the frequency of the disease must depend on the treatment of all persons infected, on personal direct education of the laboring classes by lectures and pamphlets, and on a complete reformation of the public health service in Porto Rico.

2. Ground-itch is the first sign of infestation, and to avoid it shoes should be worn and earth pollution stopped.

3. The coffee districts of Porto Rico are the most intensely infested of all regions in the island.

4. Five doses of thymol given a week apart are sufficient to practically cure nearly every patient and to reduce the power of infectivity of the patient to the soil about nineteen-twentieths.

In addition a full plan for future work is laid out and it is brought forcibly home to all that from this time on the extermination of Porto Rican anemia, is largely a matter of money. Not the least of the labors of this year was the counting of all uncinariæ expelled after each dose of thymol in 40 cases and after each dose of betanaphthol in 30 more. This was most tiresome and disgusting, but a fruitful work, as we established the fact that after even one dose 74.54 per cent. of the parasites were expelled.

On receipt of this report, again the Legislature of Porto Rico trebled their appropriation of the year before and the third year's work began.

At this point Drs. Ashford and King returned to their services and Dr. Pedro Gutierrez Igaravidez took the directorship of the work.

PERMANENT COMMISSION ESTABLISHED

In view of the fact that the Porto Rico Anemia Commission of the previous two years had demonstrated beyond a doubt the extent and curability of uncinariasis, the legislature of 1906 passed a law organizing for the first time a permanent commission for the extermination of uncinariasis in Porto Rico.

Governor Winthrop appointed Dr. Gutierrez Igaravidez as president and Drs. I. Gonzales Martinez of Mayaguez and Dr. F. Sein Sein of Lares as members of that commission on June 25.

This commission, after discussion of the problems before them, in accord with the plans of the previous commission, considered it necessary to continue the work by means of dispensaries as in preceding years, thus offering to every man, woman or child suffering with uncinariasis, a microscopic diagnosis, a free specific for his disease and printed matter and verbal explanation of the endemic, which would tend to disseminate the facts among his neighbors and friends and thus popularize the reform undertaken.

The requests for dispensaries from nearly every town in the island showed the desire of the people that the campaign be made to cover, so far as resources permitted, every particle of ground possible; the commission realized the justice of these requests and decided to establish the largest number of stations feasible.

DISPENSARIES OPENED

As the practical problem outweighed every other consideration in the fight against this disease, both from the standpoint of prevention and cure, the commission directed its efforts rather toward this phase of the question than to the scientific work which more time and money might have made also possible. Each month as soon as they could be organized, dispensaries were opened in some towns, until 35 were found working at the end of the fiscal year, 1906 and 1907. In order to better administer the stations and supply them, the island was divided into three districts, one for each commissioner. The central station was established near San Juan and directed the entire work.

Each commissioner and some of the directors of dispensaries were permitted to place in the municipal hospitals at the expense of the service certain seriously ill anemics, who were unable to return to their homes and who apart from this offered opportunities for clinical research and for the study of the effects of new remedies for the expulsion of the worm.

In the 35 dispensaries in operation in the year 1906-1907, 89,233 persons were treated, of whom 43.09 per cent. were cured. The remainder, for reasons before expressed, could be considered as having been relieved of such an overwhelming number of their parasites as to no longer suffer clinically from the disease. In addition, such patients possessed only a small fraction of their power for infestation of the soil. The mortality was but 0.21 per cent. The records kept of these patients was the same as kept in previous years; a card of identification corresponding to the serial number of the history card kept at the dispensary was given each patient.

LITERATURE DISTRIBUTED

Printed circulars were widely distributed, in which the nature of the "anemia" of Porto Rico was made plain, and also the manner of contracting it and the means of avoiding it. These circulars reached the planters and interested them in sending patients to be cured at the dispensaries. In addition to this, each patient on receiving his medicines was issued a colored card with printed instructions as to the manner in which they should be taken and the means that should be adopted to avoid reinfection. In conjunction with the above prophylactic measures the commission wished to try out the effects of sanitary inspectors who would visit the country barrios (or townships), and who would speak in the homes of these people of the campaign that was going on, investigating at the same time the general health conditions prevailing in each home and advising those who had not visited the dispensary to immediately take up the treatment of their curable affection. These inspectors left a card of explanation at the houses and noted under the printed headings of another card the information required of him by the commission. But lack of funds only allowed three such inspectors. These methods brought a greater number of sick to the dispensaries, caused latrines to be constructed, where before there had been none, and would have been even more fruitful of good had enough money been available to employ more inspectors.

SCIENTIFIC STUDIES

Although the cure of the greatest number of sick and the instruction in prophylaxis were the principal objects of the work of this and following years, we note in addition some scientific studies worthy of special mention:

1. The discovery of the presence of *Ankylostoma duodenale* by Dr. Gutierrez in the Central Station at Rio Piedras in the person of a native Porto Rican who had never been out of the island, thus proving the coexistence of the old-world and new-world species in Porto Rico.

2. The trial of Phillips' eucalyptol and chloroform treatment for the expulsion of the worm by Gutierrez. This treatment was not as successful in the hands of the commission as it was reported to have been by its author. The patients thus treated suffered greatly from dizziness, lethargy, somnolence and fainting spells. Some grave cases of collapse occurred, and as many of them refused to continue the treatment by this medication, it was abandoned.

3. The study of tissues recovered from autopsies performed by the first anemia commission in cases of fatal uncinariasis. These tissues were sectioned and stained by Dr. Ashford in Washington and studied there by him, Dr. King, and by the late Major James Carroll and Major F. F. Russell, both of the Army Medical Corps.

4. The study of the influence on the urine of uncinariasis and the anthelmintics used for the expulsion of the parasites. These voluminous notes were compiled and reported by the first commission and are found in the reports for 1906 and 1907. Notes on animal experimentation performed by Gutierrez and Ashford at the close of the last year were compiled, and sections from the human intestines were photographed of the worm *in situ* by Dr. William Gray of the Army Medical Museum.

REPORTS FOR 1907 AND 1908

The report of 1906-1907 contained 206 pages and was illustrated.

The next year, 1907-08, the legislature again appropriated a sum for the continuance of the work and the 35 dispensaries founded in the preceding year were continued, although some were moved to other towns, and 7 more dispensaries were added, making 42 in all, The service in this year followed the plan of the last year, and 81,375 persons were treated with 51.54 per cent. cured, and a mortality of 0.12 per cent.

In 1908 the Legislature did not appropriate any funds for the continuance of the work, so that it was necessary to close all stations June 30, 1908. Nevertheless, surplus medicines on hand permitted many former directors of dispensaries to continue treating applicants, which they did without remuneration from the insular government.

A special session of the legislature was convoked by proclamation of the Governor to consider the irrigation project for the island and the anemia problem, and in September, 1908, the legislature made a modification of the law placing the work of the Commission under the Department of Health, Charities and Corrections as a bureau of that department with the name of Anemia Dispensary Service. The director of this service was Dr. Gutierrez who began in October to organize it.

In November, 1908, after a month's work in organization, the old dispensaries were gradually restored and the total number increased to 59. The number treated this year plus those treated in the five preceding months by voluntary service by the former directors of dispensaries reached 54,725, of whom 41.49 per cent. were cured and 0.08 per cent. died. In addition, 9,159 were treated as patients of former years, making a total of 63,884 treated in 1908-09.

The following table gives a succinct statement of the work to date:

TABLE 2.—SUMMARY OF ANEMIA WORK

		Age			
Years.	Patients Treated.	Under Ten Years.	Between Ten and Thirty.	Over Thirty.	Not Recorded.
1904-5...	5,490	566	3,138	1,764	22
1905-6...	18,865	2,199	11,532	4,922	212
1906-7...	89,233	8,913	51,972	28,232	116
1907-8...	81,375	8,954	52,608	19,152	661
1908-9...	54,725	6,668	34,905	13,152	...
Total....	249,688	27,300	154,155	67,222	1,011
Percentage		10.93	61.74	26.92	0.41

CLINICAL TYPE

Years	Very Light.	Light.	Medium.	Intense.	Very Intense.	Unclassified.
1904...	.....	1,222	1,063	2,258	.....	947
1905-6...	1,378	4,483	8,706	3,501	440	357
1906-7...	7,085	19,503	38,439	19,212	4,162	832
1907-8	3,022	14,968	40,136	19,140	3,465	644
1908-9...	.....	10,720	24,248	16,409	3,344	4
Total....	11,485	50,896	112,592	60,520	11,411	2,784
Percentage	4.59	20.38	45.10	24.24	4.57	1.12

	Number of Visits.	Number of Deaths.	Amount Spent.	Per Patient.
1904-5.....	22,000	27	$ 4,954.84	
1905-6.....	76,896	67	10,808.77	
1906-7.....	425,131	193	49,116.31	
1907-8.....	472,407	93	56,950.57	
1908-9.....	305,598	46	32,360.91	
Total	1,302,032	426	$154,191.40	.6175

TOTAL NUMBER TREATED

In addition to the 249,688 patients treated up to June 30, 1909, there have been treated, but not yet classified, from that date to Feb. 28, 1910, 22,568 more; hence the sum total to date is 272,256 persons who have received treatment from 1904 to the latter date, by government work alone. It would be impossible to fix the total number who have been treated apart from government work for uncinariasis. This number cannot possibly be less than 30,000. Thus 300,000 is the total number so far treated for uncinariasis in the Island of Porto Rico since March, 1904.

THE WORK OF DR. KING

This is the first time in the history of the Porto Rico Anemia Commission that all its members have not taken an active part in preparing public reports of its labors. Time and distance separate us from the third member, who otherwise would have shared in the preparation of this work. But it is not amiss to note that Dr. Walter W. King was one of its members, planned with us the work it has accomplished and met the difficult situations it has fortunately weathered. Although he does not sign this article with us, his name is intimately associated with every page of its history.

Senile Cataract Often Avoidable.—C. Ziem of Danzig, Germany, presents a number of arguments to sustain his contention that cataract is not the result of encroaching age alone but is due mainly to other factors, most of them avoidable. He includes among these unhygienic, damp dwellings, a damp subsoil as at St. Petersburg and Rotterdam, and dampness from the melting of heavy snows. Chief in importance, however, seem to be chronic purulent nasal affections, and he relates nine cases in which this coincidence was striking, especially as vision improved materially under treatment of the nasal trouble, and particularly when sinusitis was cured. He attributes the improvement to the bettering of the conditions in the circulation in the region and vicinity. His article on the subject is published in the *Archives internat. de Laryngologie, etc.*, 1910, xxix, 397.

A CLINICAL INVESTIGATION ON THE RELATIONSHIP OF TUBERCULOSIS TO CERTAIN DISEASES OF THE EYE *

GEORGE S. DERBY, M.D.
BOSTON
AND
THOMAS H. AYER, M.D.
WESTBORO, MASS.

We wish to present for consideration a summary of the examination of ninety-two cases in which the ocular disease suggested a tuberculous origin. In selecting these patients for investigation our suspicion of tuberculosis rested on the clinical type of the disease process in the eye.

The study was carried out during a period of five months (October, 1908, to February, 1909) in the outpatient clinics of the Carney Hospital and the Massachusetts Charitable Eye and Ear Infirmary, and we are much indebted to the staff of the latter institution for allowing us to make use of their material.

The plan of work was as follows: Having selected our patient, a careful record of the family history, personal history and present illness was made. The cutaneous test was then performed on the upper arm, for which at first we used a 25 per cent. solution of old tuberculin supplied by H. M. Alexander & Co. More recently we have discarded this for the full strength tuberculin as recommended by von Pirquet in his last publications.

In all of the patients a control vaccination was made. The patient was seen after forty-eight hours and, in case of a negative result, watched until the possibility of a reaction was over.

Following the vaccination, our patients were referred to the medical clinic of the Carney or to that of the Massachusetts General Hospital with the request in each instance that special attention should be paid to the question of an active or inactive tuberculosis. We wish to express our obligations to the members of the staffs of those two institutions who aided us in this connection.

In a few instances in which a definite diagnosis was of great importance and no confirmatory signs elsewhere could be obtained, the patient was taken into the hospital and the subcutaneous test applied for the purpose of producing, if possible, a local reaction.

In tabulating our results we have recorded our medical examinations as positive whenever the consultant reported the case as suspicious. As a matter of fact, there are but few cases in our series in which an absolutely definite diagnosis of tuberculosis elsewhere could be made, and those are, first, the ones in which there was a positive local reaction to the subcutaneous injection of tuberculin; and, second, a few cases of tuberculous adenitis or tuberculosis of the larynx and one of lupus of the nose. No bacilli were found in the sputum of any patient, which only serves to emphasize the early stage of the pulmonary process. In these patients the family history was recorded as positive if there was reasonable evidence of a tuberculosis affecting a member of the patient's immediate family.

Our cases may be roughly divided into two groups, in one of which the ocular inflammation was superficial, and one in which the deeper structures of the eye were involved.

GROUP I

The first group is made up of the so-called phlyctenular cases. We have fourteen cases of phlyctenular conjunctivitis with an average age of 14½ years.

In 3 of these (21 per cent.) the family history was positive. Only 1 patient (0.7 per cent.) showed an elevation of temperature. Nine (64 per cent.) gave positive physical signs. In 7 these signs were in the lungs, while 1 had a tuberculous adenitis and 1 a lupus of the nose. The cutaneous reaction was positive in 11 (78.5 per cent.).

The second division of the first group contains the so-called cases of phlyctenular keratitis (keratitis eczematosa, scrofulous keratitis), and we regret to classify them under so unsatisfactory a term; for in but few of them were actual phlyctenules observed. They are rather the cases of recurrent superficial inflammation of the cornea, with or without vascularization, occurring usually in children and young adults of unhealthy appearance. We have 52 such cases, with an average age of 9½ years; the youngest 1 year; the oldest 27. In this group the family history was positive in 13 (25 per cent.). The temperature was elevated in 25 (48 per cent.). There was positive physical findings in 23 (44 per cent.). In 17 of these the lungs were suspicious. Five had a tuberculous adenitis, 1 a tuberculous empyema, 1 a tuberculous larynx, 1 a tuberculous spine. In 48 cases (92.3 per cent.) the cutaneous test was positive.

It may be noted here in this connection that in a series of 43 phlyctenular cases published last year by one of us[1] 88 per cent. of patients reacted to tuberculin, and in the same paper attention was called to 23 similar cases tested subcutaneously by Stock with an exactly similar percentage of positive reactions. Fifty-nine of the 66 cases of this present series gave a positive cutaneous reaction (89 per cent.), a remarkably close approach to the former figures.

GROUP II

Leaving now for the moment the group of superficial inflammations, we have 26 cases in which the deeper ocular structures were involved. These are made up of 6 cases of scleritis, 6 of interstitial keratitis, 4 of uveitis, 7 of sclerokeratitis and 3 of keratoiritis. As a matter of fact all these cases may be placed together, for although they have been classified anatomically according to the location of the chief process, yet usually during the course of the disease neighboring tissues became involved.

Of our 26 patients the youngest was 6 years; the oldest 49; the average age was 26⅓ years. The family history was positive in 5 (19.2 per cent.). The temperture was elevated in 12 (46 per cent.). The physical signs were positive in 18 (69 per cent.). In 15 of these the lungs were reported as "suspicious," while in 3 there was a tuberculous adenitis. The cutaneous reaction was obtained in 24 (92.3 per cent.). It may be of interest to combine the figures of the first group and compare them with those of the second.

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909

1. Derby, G. S.: The Increasing Importance of Tuberculosis as a Cause of Ocular Disease. The Newer Methods of Diagnosis and the Treatment, Arch. Ophth., 1908, xxxvii, No. 5.

GROUP I (SUPERFICIAL OCULAR INFLAMMATIONS) AND GROUP II (INFLAMMATIONS INVOLVING DEEPER STRUCTURES OF THE EYE)

FAMILY HISTORY

Group I:	66 cases.	Positive in 16, or 24.2%.
Group II:	26 cases.	Positive in 5, or 19.2%.
Whole Series:	92 cases.	Positive in 21, or 22.8%.

TEMPERATURE

Group I:	66 cases.	Elevated in 26, or 39.3%.
Group II:	26 cases.	Elevated in 12, or 46.1%.
Whole Series:	92 cases.	Elevated in 38, or 41.3%.

SUSPICIOUS SIGNS OF TUBERCULOSIS

(Lungs, glands, local reaction to subcutaneous test, etc.)

Group I:	66 cases.	Positive signs in 32, or 48.5%.
Group II:	26 cases.	Positive signs in 18, or 69 %.
Whole series:	92 cases.	Positive signs in 50, or 54.3%.

REACTION TO TUBERCULIN

Group I:	66 cases.	Positive in 59, or 89.3%.
Group II:	26 cases.	Positive in 24, or 92.3%.
Whole series:	92 cases.	Positive in 85, or 90.2%.

In fifty cases out of a possible ninety-two there were signs pointing to a tuberculosis outside the eye, and as pertinent here we quote from the paper previously referred to:

Since at autopsy tubercular lesions, healed or active, are found in from 40 per cent. to 90 per cent. of subjects, it follows that only in a small percentage of cases, most of them of a severe type, is the diagnosis made during life. There are then many mild cases, some of which are not seen by the medical man, and others in which the signs and symptoms are not clear enough to render the diagnosis possible. Most of these patients get well, and only in the event of autopsy is the disease manifest. In a large percentage of cases where it has been possible to make a definite diagnosis of tuberculosis, the disease has been in an advanced stage and cure has been uncertain. This is especially true of pulmonary tuberculosis, in which the finding of bacilli in the sputum clinches the diagnosis, but means advanced disease. I believe the same conditions exist in regard to ocular tuberculosis. Formerly only the hopeless cases, leading to the destruction of the eye, were recognized, while now we are beginning to recognize the milder types which are curable.

If tubercular disease of the eye is as prevalent as my figures tend to show, it will lie in the power of the ophthalmologist to take a more active part in the fight against tuberculosis than he can at present. We see hundreds of these cases in our clinics each year. My small series shows that many have signs pointing to tuberculosis in their lungs or elsewhere. These are the incipient cases that the tuberculosis expert wishes to reach. Even if the patient shows no general signs of the disease himself, he may be the means of directing attention to the whereabouts of an active focus of tuberculosis in the community.

Our present study tends to confirm these views. Furthermore, if we should search in these cases for signs of the so-called scrofulous diathesis we should find them, as many investigators of phlyctenular disease have shown, in a much larger number of patients, 85 to 90 per cent. As time goes on the identity of scrofula with tuberculosis is becoming more widely accepted. As long ago as 1904 Behring stated:

Candidates for tuberculosis owe their much-discussed predisposition to an infantile infection with tuberculous virus. The practicing physician will before long become convinced that human pulmonary tuberculosis is no more nor less than the final stage of a tuberculous infection dating from infancy, which infection in childhood manifested itself in the signs of a relatively latent scrofulosis.

We believe that for the good of the community, if not for the individuals themselves, these eye patients should be given a thorough physical examination as a routine procedure. We think it likely that the deep and severe tuberculous infection of the eye are often the final stage of a tuberculous infection acquired in childhood and manifested at that time in the form of a phlyctenular process.

It is important that the significance of these forms of ocular disease should be brought to the attention of the opthalmologist and to the medical profession in general.

TUBERCULIN FOR DIAGNOSIS

In our work the use of the subcutaneous test for diagnosis has been found impracticable except in a small portion of the cases. It is impossible in large clinics to obtain the requisite number of hospital beds and it is very difficult to induce the patient to give up a sufficient amount of time for the test. Then, too, the moral effect of a positive reaction with marked general disturbance is often disastrous and has in our experience caused the patient to refuse subsequent tuberculin treatment. Furthermore, the anticipated local reaction may not be obtained. We believe in confining the subcutaneous test to those cases in which the diagnosis can be made in no other way and in which a diagnosis is essential if an intelligent course of treatment is to be prescribed. We have discarded the conjunctival test as being occasionally productive of disastrous results and as being but little more convenient than the cutaneous. We do not believe that there is as yet sufficient evidence of the superiority of the former test as indicating an active tuberculous focus. There can be no doubt that a negative cutaneous test is of far greater importance than a positive one. A positive reaction can add but little to the diagnosis of the ocular disease while as a result of two negative cutaneous tests tuberculosis may, with reasonable probability, be excluded. We have performed the latter test on nearly 200 patients and have never seen harm result from it.

TREATMENT

Although not included in the title of this paper, it may not be amiss to take up the question of treatment.

We reiterate the belief expressed by one of us previously[1] that these patients as a group are best handled by means of the tuberculosis class. In our work we have seriously felt the need of such organizations, and up to within a few months have had to refer our patients for treatment to the classes of other institutions. Three months ago we assisted in establishing such a class at the Carney Hospital for the treatment of all varieties of tuberculosis and in January a class for ocular tuberculosis alone (of which one of us is in charge) was financed by certain generous private individuals and was started at the Massachusetts Charitable Eye and Ear Infirmary. This we believe to be the first of its kind.

Our machinery there consists of an ophthalmologist, an internist, a social worker and a nurse. Patients are referred from the clinics to the class for the investigation necessary to diagnose, and when this is positive and the patient's case is a suitable one for class treatment he is registered as a member. We have a weekly session, but certain seriously affected patients are seen more often and the patients with milder cases may be instructed to report less frequently. Each patient is given a book in which a minute record of his daily life may be recorded. He is weighed, his temperature taken, and, if indicated, a tuberculin injection is given. This is but a part of the treatment, however, for it is most important to reach these patients in their homes and to

exercise a strict control over their manner of living. Our treatment differs but little from that of the general tuberculosis class, except that our cases are usually a milder type of disease than the average one seen in the general class. We insist on rest during an active inflammation, and especially if the temperature is elevated during some period of the day, even if the rise be slight. The patients are taught cleanliness and how to get the maximum amount of fresh air. They have the usual antituberculosis diet and forced feeding. They are visited in their homes by our social worker as often as is necessary, and in this way we keep in close touch with them and do not have to depend on their own statements.

The severity and duration of the treatment needed varies markedly with the individual case. Most of the patients in phlyctenular cases soon recover and remain well if they contiue to live in good hygienic surroundings. We have them report every month or two. The deeper processes have been much stubborner and in our hands usually require treatment for many months. As has been observed by many, these cases are all especially liable to recurrences even when the patient's condition becomes robust.

We have a certain amount of money at our disposal to help worthy patients who can not follow out directions on account of lack of means. Those who have not homes where proper treatment may be carried out are referred to various institutions which have facilities for handling tuberculosis. Occasionally we meet a case in which class treatment is not successful. These are referred to the sanatoria; just as in all medical cases each patient must be treated as an individual and the treatment modified to suit his wants.

The paper referred to above[1] stated that the writer (G. S. D.) had been convinced of the value of tuberculin. As the result of further observation we wish to modify this statement. In the classes referred to tuberculin is used in all severer inflammations. As a rule the phlyctenular case does not need it. We believe that, as a rule, our patients do better when tuberculin is used. We employ now a bouillon filtrate obtained from Saranac and begin ordinarily with an initial dose of 0.0001 mg. It has seemed to us that our patients did better and suffered less harm on small and increasing doses rather than when given larger doses for the purpose of stirring up a slight local reaction. We have, however, seen in certain instances a marked improvement follow the diagnostic injection of old tuberculin, and in one instance, a case which had reached a standstill, the patient began to improve again after one or two large doses had been tried; but we have also often seen setbacks result from too large dosage, and therefore we do not believe in it as a routine procedure. We believe that the use of tuberculin should always be second to strict hygienic treatment even if the patient be in apparently good condition, for we know of the great good which may be accomplished in this way alone.

To conclude, allow us to report an interesting and severe case that resisted class treatment and tuberculin but yielded readily after the patient was sent to a sanatorium.

History.—M. M., a man, aged 26, was referred to us for treatment May 5, 1908. Following measles when he was 11 years old he had numerous attacks of ocular inflammation which seriously damaged his sight and kept him out of work. During several of these attacks he was treated as an inpatient in the Massachusetts Charitable Eye and Ear Infirmary. The attacks were so frequent that he was able to work only five months all told out of the last thirty-six.

Examination.—The patient had swollen lids, intense photophobia and lachrymation; both corneæ were covered with old scars and a well-marked pannus. There was no trachoma. V. O. D. and V. O. S. = hand movements. It was necessary to lead the patient. General examination showed a poorly nourished man with the signs of an old pulmonary tuberculosis at the left apex. Cutaneous reaction positive. Temperature elevated. The patient was in a most despondent condition.

Course of Disease.—In conjunction with the Massachusetts General Hospital Tuberculosis Class we took charge of him and a strict antituberculosis regimen was prescribed, with tuberculin injections and appropriate local treatment. The patient was helped financially, as, outside of what his wife could earn cooking, they had no means of support. Although we did everything in our power for him, his improvement was very slow, and at the end of ten weeks we decided to send him to the state sanatorium at Rutland, at which institution he was admitted July 15. Here his improvement was most rapid; the ocular inflammation had subsided at the end of five weeks, and his vision had increased to 10/200 o. u., as much as he had had for some years previously, according to his former hospital record. He left Rutland after seven weeks, having gained 24 pounds and feeling in better condition than ever before in his life. He resumed his work in a golf-ball factory and has not missed a day in the last six months. He reports occasionally for observation and is careful of his method of living.

7 Hereford St., Boston—54 West Main St., Westboro.

ABSTRACT OF DISCUSSION

DR. W. H. WILDER, Chicago: The results that Dr. Derby has obtained accord closely with those which I have had in the cases I have examined. It is astonishing how frequently in cases of phlyctenulosis we will get a positive reaction to tuberculin tests and how frequently in certain other suspicious eye diseases if we make the cutaneous test we will get a positive reaction. So that these results seem to show that, after all, as v. Pirquet has stated, from 70 to 90 per cent. of individuals will react to this delicate cutaneous test. This would help to bear out the statement of the pathologists that, at the age of 60, 999 individuals in 1,000 have tuberculous lesions. Of course, to believe such a statement must require more credulity than some of us possess, because I do not think the pathologists can positively demonstrate the fact. But at any rate there must be a great deal of latent tuberculosis. If we find that so many of our cases of suspicious eye disease will respond to the tuberculin test, can it be made of any great value as a means of diagnosis? Possibly it may be, and it will be the work of the committee which has been appointed to try to determine if there is any possible relation between the lesion in the eye and the severity of the reaction obtained in the test; also whether there is any relationship between the suspected lesion in the eye and tuberculous lesions elsewhere in the body. Possibly the study of a large number of cases may enable us to arrive at some definite conclusion. Again, it will be of value in the study of an eye lesion of suspicious character to be able to determine whether or not there is a more or less active tuberculous lesion elsewhere, for it will direct treatment to this condition and will teach the ophthalmologist that he must cooperate with the general practitioner or the physician who is familiar with tuberculosis in the management of such cases. Another interesting and important question is whether it is necessary to have tuberculous foci in the eye itself to account for certain diseased conditions, as many of the Germans hold, or whether it is not possible for toxins originating in a tuberculous lesion elsewhere in the body to excite in the delicate structures of the eye inflammation that would take on the form of iritis, cyclitis, keratitis and others of a suspicious nature. I am inclined to think the day will come when we will have proof that toxic inflammation from tubercle elsewhere in the body

may be responsible for many lesions of the eye, the etiology of which is now obscure.

DR. W. C. POSEY, Philadelphia: This paper is further evidence of the tuberculous origin of phlyctenulæ, a question which has been much in dispute during the past decade, while the detection of signs pointing to tuberculosis in fifty of the authors' cases out of a possible ninety-two should impress on us, as they suggest, the importance of a thorough physical examination in this class of cases, not only for the advantage of the individuals themselves, but also for the good of the community at large. An article in the April number of the *Klin. Monatsblätter für Augenheilkunde*, by Cohen, has a similar trend, for of 123 adult patients with phlyctenulæ who were collected from Uhthoff's clinic, 63.4 per cent. were tuberculous. It is of interest to remark in the analysis of this group of cases that the diagnosis of tuberculosis elsewhere in the body was established by the older clinical methods, without the means of modern diagnostic aids, most of the observations having been made prior to their discovery. Of particular significance was the fact that the phlyctenulæ in many of the cases were found to occur in the first stages of tuberculosis, and that in a vast majority of the cases there had not been an earlier inflammation of the eyes during childhood.

Drs. Derby and Ayer have discarded the conjunctival test as being occasionally productive of disastrous results and as being but little more convenient than the cutaneous. This perhaps is the present practice of many clinicians and is being more universally pursued. Considerable difficulty certainly attends the endeavor in many cases of suspected tuberculous disease of the eye to ascertain whether a tuberculous element is actually present or not. Thus, when tuberculin is injected for diagnostic purposes, the local reaction, even in undoubted cases of tuberculosis, is often absent, or at least but transient, and when a general reaction is obtained, without local signs of irritation or inflammation, it frequently seems presumptious to conclude with any degree of certainty that the case is one of tuberculosis of the eye. The observation and study of a large series of cases can alone solve the problem, so that in time the varied forms under which tuberculosis occurs in the eye may be differentiated into definite types.

For some years past, I have endeavored to recognize tuberculosis of the cornea at first hand by simple inspection, and have found after the diagnosis had been controlled by tuberculin tests, that the projection of a tongue-like area of yellowish-white infiltrate from the limbus into the interstitial lamellæ of the cornea toward its center and the occurrence of discrete yellow-white oval areas, which appear caseous and avascular, is very significant of tuberculous keratitis, while I have observed the deposition of small rounded areas resembling drops of cold mutton fat on the posterior surface of the cornea or in the lamellæ of the cornea, secondary to tubercle of the iris and of the deeper parts of the eye.

Dr. Derby's suggestion of a tuberculosis class appears to solve the difficulty which all ophthalmologists must have experienced in treating these individuals purely as ophthalmic patients, for but few ophthalmic hospitals are equipped to care properly for such cases, and the establishment of such classes in all cities seems most desirable.

The fact, now presumably fairly well established, that the occurrence of phlyctenulæ in adults as well as children, indicates a tuberculous infection, should be appreciated not only by ophthalmic surgeons, but by general practitioners as well, both for the suggestion which the appearance of the phlyctenulæ may give of the seat of tuberculosis in the system, as well as for the necessity which arises of treating subjects with this ocular disease as possible sources of tuberculous infection to others.

DR. G. S. DERBY, Boston: We lay very little stress on a positive skin reaction, as so many individuals will show it, but if there are two negative reactions tuberculosis can be excluded with reasonable probability.

Symptoms of Bladder Calculi.—Diurnal urgency, pain in the bladder, pain at the external meatus at the end of micturition, and the presence of blood corpuscles in the urine should lead one to examine for stone.—C. W. Bonney, in *Therapeutic Gazette*.

TREATMENT OF HOOKWORM DISEASE*

EDWARD E. LINDEMAN, M.D.
TAMPA, FLA.

It has recently been roughly estimated that there are 2,000,000 people in the United States infected with hookworm disease. Since it is a disease prevalent in the country districts of the sandy soil area of the South, where perhaps more recent literature on the subject has not as yet permeated, I have undertaken a discussion of the treatment of hookworm disease, including some practical points from my own observations, with the hope that this article may reach those parts where this information may be new.

THE PARASITE AND ITS MODE OF ENTRANCE

It might be well first to state briefly the life cycle of the parasite producing this disease. The disease is caused by the *Uncinaria americana* (Stiles) which belongs to the roundworm family (*Strongyloidæ*). This worm is from 7 to 11 mm. long and 1 mm. in diameter. It inhabits the intestinal tract, principally the lower part of the duodenum, the jejunum, and the upper portion of the ileum, where it attaches itself to the mucosa by its dorsal and ventral lips or suckers. It is also armed with a prominent dorso-median buccal tooth, which is simply a hollow tooth-like spine. With this tooth it pierces the intestinal wall to reach the blood-channels, draws blood into itself for food and injects a toxin through the same opening. It thus produces small hemorrhagic erosions on the intestinal wall. Both male and female worms inhabit the intestinal tract. The female worm is very fertile and lays eggs abundantly. These eggs are cast into the exterior world with the feces. As many as 4,000 worms have been found in one individual, and as many as 2,000,000 ova may be discharged in a single stool. Where proper conditions of soil, climate, moisture and oxygen prevail, these eggs readily hatch into larvæ. The larvæ are exceedingly minute, unseen by the naked eye, and are found in soil, drinking-water and food which may be polluted. The larvæ enter the body mainly through two channels: (1) with ingested food and water; (2) through the skin. It is the latter which is regarded by most authorities as the main avenue of entrance, more frequently the skin of the feet, because of the more ready and intimate exposure of these parts to the polluted soil by people going barefoot during the warm (which is the infective) season. The hands and arms are next in frequency as routes of entrance, but the larvæ may gain entrance through any exposed surface with which they come in contact. The larvæ present in the skin produce an itching sensation accompanied by an inflammatory reaction, and sometimes secondary infection of other microorganisms may take place. This condition is commonly known as ground-itch or dew-itch. The larvæ, having pierced the skin, soon gain entrance to the lymph and blood-channels, through which they are carried to the heart, to reach the capillaries of the lungs. They then pass through the capillary walls into the alveolar spaces; from here they migrate through the bronchioles into the bronchi, and then crawl up the trachea to reach the mouth cavity, after which they are swallowed in ordinary acts of deglutition, eating, drinking, etc., and thereby reach the intestinal tract.

* Read before the Florida State Medical Association, April 6, 1910.

TREATMENT BY THYMOL

There is perhaps no drug whose action is more nearly a specific in the treatment of this disease than is thymol. There are, however, a group of cases, and those usually of the more extreme type, that are not relieved by thymol, and among a number of practitioners this drug has fallen somewhat into disrepute, and other drugs, such as betanaphthol and turpentine, have been substituted. The administration of thymol is not without some danger unless certain necessary precautions are observed. Severe intoxications have not infrequently occurred because of the improper administration of the drug by the profession as well as by the laity.

Further, in other instances thymol has been administered in such form as to pass through the intestinal tract *en masse* with no more effect than pellets of lead. For instance, there have been sent to the bacteriologic laboratory of the State Board of Health of Florida a few stone-like masses about the size of a small marble which were obtained from the stools of children suffering with hookworm disease which were regarded as a concomitant pathologic condition with uncinariasis. These on microscopic examination and chemical analysis proved to be pure thymol. It is self-evident that thymol in such form can have little or no therapeutic value. Thymol in this case had been given in a pulverized state in ordinary capsules.

There is, too, a group of cases unrelieved in which thymol has been administered in mucilage of acacia, and in which no such masses as above stated are formed. At the Hookworm Conference in Atlanta, Ga., and in Tampa, Fla., to explain these unrelieved cases it was suggested that there must be some idiosyncrasy or a development of an immunity to the drug.

Now, to clear up these elements of doubt and put the treatment on a safe and rational basis, it is necessary to appreciate the following points:

1. The pharmacology of thymol.
2. The object to be desired in the treatment.
3. The best means of obtaining this object with highest therapeutic value, least dosage and least deleterious effects to the individual.

PHARMACOLOGY

Thymol (*Thymus vulgaris*, Linné) occurs in common thyme and several other plants and forms large, colorless, translucent rhombic prisms, having an aromatic, thyme-like odor, and a pungent thyme-like taste, with a slight caustic effect on the mucous membrane of the mouth. It melts at 50 centigrade, is soluble 1,100 parts of water and in less than its own weight of ether, alcohol or chloroform, and is soluble in glacial acetic acid, fixed oils and fats.

TOXICOLOGY

The toxic effect of thymol is obtained when absorbed. These toxic effects are similar to those of the phenol series, but of a somewhat milder grade. In fact, thymol is closely related chemically to phenol, differing only in having a methyl and a propyl radical to replace two of the hydrogen atoms in the benzin ring. In poisoning from its use, locally there is a burning sensation in the stomach and slightly caustic effects on the mucous membranes of the intestines, producing intestinal irritation and evacuation of feces, nausea and vomiting. Tremors and convulsions are induced, though rarely, and less intense than those induced by phenol.

Fatty degeneration of the liver, marked congestion and even consolidation of the lungs have been observed. In the milder forms of poisoning together with the local mild caustic effects and burning sensation in the stomach, there are tingling sensations over various parts of the surface of the body, tremors and muscular twitchings, which may go on to convulsions; in fact, the patient may show any of the symptoms resulting from irritation of the anterior cord. In the more extreme cases of poisoning this is soon followed by collapse; while in others the stage of irritability may be missed, owing to the debility of the patient from disease. The debilitated patients making up the greater group of those poisoned, the more frequent picture is that of apathy, collapse, paralysis and shock, in which stage the patient may succumb. In the stimulating stage the respiration and heart-rate are increased. In the stage of collapse there is a slowing of both heart and respiration, the former being due to direct action on the heart musculature.

Thymol has no toxic effects constitutionally unless in solution and absorbed. When absorbed it has absolutely no therapeutic value in the treatment of hookworm disease. The therapeutic value of thymol is confined entirely to its action on the worm in the intestinal tract. The worm is affected by thymol in crystalline form as well as in solution, and while the solution is more toxic to the parasite, the crystalline form is sufficiently toxic to paralyze or kill it, but it accomplishes this only if the individual crystals reach the individual worm; it is therefore evident that thymol passing through the intestinal tract *en masse* can come in contact with relatively very few worms. The more widely disseminated the individual crystals the more worms will they reach and the higher the therapeutic value.

METHOD OF ADMINISTRATION

Thymol has very strong adhesive properties, and when placed in capsules, whether loosely or tightly packed, readily forms a conglomerate, stone-like mass. I was therefore led to experiment with thymol in order to determine how it might be administered to permit the widest dissemination of its crystals. The drug was packed in capsules with different degrees of compactness, in finely and coarsely pulverized states. Acidulated tap water was used as the solvent, and slight stirring was done to imitate gastric conditions. It was found that while some thymol went into suspension, much of it formed solid lumps. Those packed loosely and in a finely pulverized state broke into several lumps, about one-quarter of the amount going into fine suspension; those packed loosely and in a coarser state were a little better divided and suspended; those packed tightly, whether fine or coarse, remained in almost the same state. Cachets were then tried in a similar manner, with perhaps a little better result, but not quite all that was desired. It occurred to me that better results might be obtained by triturating the crystals with a readily soluble substance and packing them loosely in cachets, so that when the drug reached the gastric menstruum the soluble intercrystalline substance would go into solution leaving the thymol in a finely divided and widely disseminated state of suspension. Equal parts of milk-sugar was used as the triturating vehicle. The results were all that could be desired.

Now while the form of administration, as is self-evident, must modify the dosage required, and this fact in a measure explains some cases of hookworm disease not cured by thymol treatment, it does not explain an-

other group of cases treated with thymol put up in mucilage of acacia, some of which it should be noted were of the extreme type. In some of these instances betanaphthol had been used and in others spirits of turpentine, with varied results.

To explain these cases by an acquired tolerance or immunity or some idiosyncrasy to the drug on the part of the individual seems to me to be fallacious. It should be remembered that the treatment of hookworm disease, in reality, is entirely confined to the worm and not to the patient and since the individual as such is not treated, it would be absurd to speak of an immunity or even an idiosyncrasy of the individual to thymol.

It seems to me that the explanation for the failure in the group of cases of unsuccessful thymol treatment is not to be found in a developed immunity or idiosyncrasy of the patient or worm to thymol, but rather in some peculiar physiologic or pathologic conditions present, or in faulty administration which prevents the drug administered from reaching the parasite for efficient action.

The form of administration has been touched on in the preceding; now let us see what physiologic or pathologic conditions can prevail which might prevent thymol from coming in contact with the parasite. Theoretically they are as follows:

1. A peculiar mucous or catarrhal condition of the small intestines. The parasite in its effort to hold on to the intestinal wall may be well buried in such mucus, or in the thickened mucosa, thus preventing the drug from coming in contact with it.

2. A viscous or colloidal state of intestinal fluid which might prevent intimate contact of crystals—for instance, a large amount of bile present.

3. The parasites produce small hemorrhagic erosions on the intestinal wall. When, as in the extreme cases, there are erosions enough, thymol may set up considerable irritation, which may produce vigorous peristalsis and thus propel the unattached intestinal contents with a sufficient degree of rapidity, to prevent the worm from being exposed long enough to the drug to be much affected by it. (It might here be stated that in the cases unsuccessfully treated, a partial relief from the disease is always obtained through the thymol; that is to say, a certain number of worms are killed or paralyzed and expelled).

4. The gastric or upper intestinal menstruum may be of a nature to dissolve the drug and permit of its absorption to a sufficient extent to relieve the worm of its toxicity.

5. Thymol may be administered in a form so as to reach relatively few worms, as discussed above.

6. In hookworm disease there is present generally, and in the severe cases always, an extreme of pot-belly, a great debility and a general enteroptosis. With a general enteroptosis and inactivity, dilatation of the stomach is a common association. It is easily seen how a drug may lie for a comparatively long period in such a stomach and fail to reach the parasite. Later, when cartharties are administered, the drug is propelled through the intestines so rapidly as to prevent sufficient exposure of the worms to the drug for efficient action.

That all these factors can play a part in protecting the parasites from the drug must be conceded. The importance of each factor would vary with each individual case, but of all these factors the last seems the more likely. I happened to see a case in a dog a few days ago which would seem to bear out this conclusion. The veterinarian in charge of the case gives the following history:

History.—A large English pointer of fine breed, three years old, considerably emaciated, extremely anemic and weak; mucous membrane white; constipation and no appetite. March 24, 3 p. m., a half ounce of epsom salts given; no action. March 25, 9 a. m., thymol, grains 25, given; 2 p. m., half ounce of epsom salts given; no action. March 26, 8 a. m., castor oil, drams 2; no action. March 26, 11 a. m., I saw the dog for the first time. Its condition was as follows: paralysis, shock, slow heart, slow respiration, fall of temperature, later followed by coma. Rectal irrigations were then given; strychnin, brandy and salt solution were injected subcutaneously. The dog sank slowly and died several hours later.

Autopsy.—General paleness and extreme anemia of all tissues and organs; heart-filaria fifteen in number; stomach full and greatly dilated; pyloric end closed; stomach contents thin, watery fluid; some solid remnants, hairs, etc., and remnants of cachets. The entire intestinal tract was extremely pale and literally covered with hookworms, even the rectum. The mucosa was much thickened with numerous hemorrhagic erosions scattered over it. In this thickened mucosa many of the worms were well buried and obtainable only by scraping with a knife.

Here is a case, if we can use this as an experimental one, of an intestinal system so depleted of blood and debilitated by disease that there was not sufficient power remaining to propel the stomach contents into the intestines. The dilation resulting offered an excellent reservoir for all material ingested. Water was not absorbed because of the epsom salts present. The castor oil administered dissolved what thymol was present in the stomach permitting its absorption, producing the poisoned condition in which the dog was found, and so debilitated was the animal from disease that it could not withstand the intoxication.

This danger in the treatment can be overcome to some extent if the patient be placed on the right side in bed (after administering thymol) as recommended by Stiles. This will permit mechanically more ready passage of stomach contents through the pylorus and incidentally a good deal of the burning sensation of the stomach will be avoided.

TREATMENT

The patient should have nothing to eat from noon of the day previous to the administration day of the thymol. On this day and the day following, fat of any kind, milk, cream, butter, bacon, etc., should be avoided. Whiskey, beer, wine and oils are absolutely interdicted, as all these can dissolve thymol. Early in the evening of the first day sufficient epsom salts should be given for efficient purgation. It is important that the bowels should be well moved. Early next day the dose of thymol decided on should be divided into two parts and given one hour apart. It is best administered in cachets triturated with equal parts of milk-sugar, and before using the cachets should be well softened in water until they are of the consistency of a raw oyster. It is best to put the patient to bed, on the right side. The thymol should be retained for from two to five hours, unless distress or symptoms of intoxication occur. (H. F. Harris, Atlanta, Ga.) Epsom salts should then be used for flushing the bowels and expelling the drug. The following dosage as outlined by the State Board of Health of Florida is considered safe to use:

Under 5 years of age	Up to 8 grains
5 to 10 years of age	8 to 15 grains
10 to 15 years of age	15 to 30 grains
15 to 20 years of age	30 to 45 grains
20 to 60 years of age	45 to 60 grains
Over 60 years of age	45 grains

In determining the size of the dose the apparent age and the real weight of the child should be considered. The condition of the heart, the degree of debility and anemia should also be considered. And where these latter conditions prevail to any extent small doses are indicated. The nauseating effects of epsom salts can be considerably lessened if dissolved in the smallest

quantity of warm water possible and swallowed. This to be then followed by a large quantity of any mild fluid, even water. The mixing thus takes place in the stomach instead of in the glass. The patient may begin to eat after the bowels are well moved on this day. It is best that they should eat sparingly and avoid distress from engorgement. The same precautions should be observed on this day regarding fats, oils, alcohol, etc.

Once the worm is eradicated, fresh air, sunshine, plenty of water and proper food are the chief requirements for the treatment of the anemia of hookworm disease. Iron, arsenic, tonics and ferruginous vegetables are indicated. The patient should be treated at intervals of one, two or three weeks until the stool is free from eggs or parasites. The more debilitated patients should be treated at longer intervals.

Betanaphthol is not so toxic to the parasite as thymol, but has a more toxic action on the kidneys. The anthelmintic properties of turpentine are less than those of thymol; besides turpentine is less desirable because of its ready absorption and liability to produce an acute nephritis. Pressed thymol tablets should never be used.

REMOVAL OF NEOPLASMS OF THE URINARY BLADDER

A NEW METHOD, EMPLOYING HIGH-FREQUENCY (OUDIN) CURRENTS THROUGH A CATHETERIZING CYSTOSCOPE*

EDWIN BEER, M.D.

Surgeon to Montefiore Home; Assistant Visiting Surgeon to Bellevue Hospital; Assistant Adjunct Surgeon to Mount Sinai Hospital; Junior Surgeon to the New York Neurological Institute; Cystoscopist to the German Hospital

NEW YORK

This brief preliminary report is written with the object of calling the attention of the profession to a new and simple method of destroying new growths of the urinary bladder. Even though my experience is not extensive, limited as it is to two large papillary growths, still the observations made leave no doubt in my mind that the Oudin current, employed as I have employed it, will prove effective in the cure of benign papillomata, as well as useful in malign tumors, papillomatous or not, both as a hemostatic and as a cauterizing agent.[1] My experiences also suggest the usefulness of these currents in many other conditions both in the bladder and in other parts, e. g. tuberculous ulcers of the bladder, prostatic hypertrophy, growths in the urethra, etc.

In March, 1908, I hit on the idea of using the high-frequency current as I now use it. Expert electric manufacturers told me I could not obtain the effects I desired through a water medium; that an air gap was necessary. Moreover, that if I used the current as I intended, it would burn out my cystoscope. Others who had experience with these currents in skin conditions were equally pessimistic. Despite these opinions I ordered from the manufacturer a thoroughly insulated cable, No. 6 French caliber, so that it could be introduced readily through the catheter tunnel of a Nitze catheterizing cystoscope. My experimental work was confined to the removal of skin warts through a water medium I soon convinced myself of the efficacy of this therapy, despite the absence of an air gap. I also tested my Nitze cystoscopes and found that they stood the test perfectly. They were not burned out and I could readily see what was going on at the end of the electrode though very rarely an insignificant variation in the intensity of the light occurred.

Through the courtesy of Dr. A. G. Gerster, I was able to try out this new method in an inoperable tumor of the bladder in a woman of 81. In a second case, that of woman of 66, I employed this method also. Both patients were troubled with hematuria. In the second case the bleeding was very active, while in the first case it was moderate when the treatment was begun. As my experiences in these cases were highly satisfactory, I hasten to lay them before the profession, that others may avail themselves thereof.

TECHNIC, ETC.

Instruments—1. I employed the Oudin current derived from a Wappler machine, placing the rheostat vertically so that one-half the resistance was thrown into the circuit. The spark gap in the muffler was approximately 1/10—1/8 inch.

2. Nitze, double-catheter cystoscope was used. In one catheter tunnel, I placed the electrode introducing it just as one introduces a catheter while to the other catheter tunnel I attached a tube for irrigation.

3. The electrode was a simple 6-ply cable of copper wire thoroughly insulated with rubber and cut off squarely at the vesical end. It measured No. 6 French and was made for me by the Wappler firm.

Application—The applications were made directly to the growth, the electrode being pushed a short distance in among the villi under the guidance of the eye and then the current was turned on for fifteen to thirty seconds at various points. The bladder was distended with distilled water. Experience may show that some other medium is preferable in view of the fact that ionization with magnesia appears particularly effective in removal of skin papillomata.

EFFECTS AND RESULTS

The immediate visible effects are very striking. No spark is seen even when the full current is thrown on without any resistance. While the current is on gas is generated quite freely and is seen bubbling out of the growth. If the point of application is superficial we can readily see a blanching of the tissues about the point of application; and at the spot where the electrode's point rested, the tissues are blackened—carbonized. As the electrode is withdrawn from the growth, very frequently it is found to be adherent to the villi, and as it is pulled on, the whole tumor moves with the electrode, which finally comes away with a piece of the tumor well baked to its vesical end.[2] This is only rarely followed by bleeding and a reapplication of the current at the same spot controls this bleeding. The great heat generated melts the insulating rubber at the end of the electrode so that one has to cut it off squarely from time to time, to prevent the wires from protruding freely and injuring the bladder wall.

In the second case the very first application of the current controlled the bleeding to such an extent that cystoscopy, which had been almost impossible, owing to the excessively rapid clouding of the medium from the arterial bleeding, became fairly easy. Eight applications at one sitting to various parts of the growth, ag-

* From the First Surgical Service of Mount Sinai Hospital.

1. In early cases of malignant disease a complete destruction may be possible

2. These fragments have been used for microscopic examination.

gregating in all four minutes, controlled the bleeding. In the first case, the hematuria was equally well controlled, but the result was less striking than in Case 2, in which the severe hemorrhage ceased at once and intensely bloody urine gave way to normal yellow urine.

Such applications of fifteen to thirty seconds seem to cause a very well-marked necrosis, which is in part due to the heat engendered. Other factors probably contribute to the final result. How much ionization, electrolysis and other factors contribute, I cannot state as yet. By making applications at eight to twelve different points in the two large tumors treated, a total necrosis of all the villous outgrowths followed with absolute cessation of hematuria. Gradually during three to five weeks the dead tissue separated from the healthy and the tumors were expelled in small masses, as the mucous membrane gradually grew in around the base of the dead tissue.[3] No ulcers were visible at any time.

The treatment caused no more discomfort than an ordinary cystoscopy. The bladder mucous membrane was but little affected by the application though some congestion and trigonitis developed in the vicinity of the growths.

At some future date, I shall report these cases in full, which is hardly necessary for this preliminary note.

116 West Fifty-eighth Street.

ANIMAL EXPERIMENTATION IN RELATION TO PRACTICAL MEDICAL KNOWLEDGE OF THE CIRCULATION*

JOSEPH ERLANGER, M.D.
MADISON, WIS.

(Continued from page 1684)

II. MODERN VIEWS OF AND METHODS OF STUDYING DISEASES OF THE CIRCULATION

In Part I of this paper the attempt has been made to present in the briefest possible form the fact that we owe our knowledge of the circulation primarily to animal experimentation. This paper has been written for the purpose of showing the practical bearings of the knowledge so gained on our understanding of certain phases of human pathology.

There could be no more emphatic way of bringing home to the practicing physician the practical results, so far as the cardiovascular system is concerned, that have accrued through the application to human pathology of the results of experiments on animals than to transcribe in full for his consideration the parts dealing with disease of the blood-vessel system, first, from some work that was standard before the Renaissance, i. e., before the importance of animal experimentation was fully realized, and, secondly, from a work that is standard to-day, calling attention to the differences between them and indicating how far such differences are due more or less directly to experiments on animals. Unfortunately, however, the limited scope of this paper precludes the full treatment of the subject in this way. I must, therefore, content myself for the present with brief extracts and discussions which, it is hoped, will furnish the reader material about which he may group his own ideas on the subject. It should be added that the extracts given below have not been selected at random, but only after careful consideration and as representing the views which, in my opinion, are in closest accord with those of the most enlightened thought of the time.

I select as the work from which to quote the views held prior to the revival of learning, "The Seven Books of Paulus Ægineta with a Commentary Embracing a Complete View of the Knowledge Possessed by the Greeks, Romans, and Arabians on all Subjects Connected with Medicine and Surgery,"[1] which dates from the seventh century. This work has been selected, first, because of its accessibility, and, secondly, because it purports to be a more or less complete compendium of the then known medicine.

The section on the heart is brief and may be quoted practically without abbreviation:

> When the heart itself is primarily affected, the case is far beyond all medical aid, occasioning sudden death; and also in the inflammations and erysipelas of it, strong distempers in very acute fevers, and hemorrhages when it is wounded, especially in the left ventricle. When it is affected synapathetically with the brain, the liver, the orifice of the stomach, and from sorrow, fear, and many other causes, it brings on the affection called syncope, being a sudden collapse of the vital powers, indicated by prostration of strength, delinquium animi, a small pulse, coldness of the extremities and copious perspiration. When this affection is of a violent nature, it also is irremediable; but if the strength stands out, it may sometimes be relieved. But strong palpitations of the heart often arise from a fulness or effervescence of its blood. When, therefore, the heart is overheated, it renders the respiration large and dense, but when it is too cold, the respiration is small and rare. The complete cure of syncope of the heart, when it occurs among the symptoms of fever, we have treated in the Second Book. This only may be added, that when collapse gains ground after friction and ointments have been applied to the extremities, and after purification of the floor, and other cooling means, we must sprinkle on the parts of the body which are sweating powdered myrtle, limolian earth, or amber, or pomegranate-rind with marena, or Samian earth with gum; and cataplasms of mustard or pellitory, adarce, are to be applied to the cold extremities, as far as to the groins and armpits. The food should be bread out of water, or out of cold diluted wine, swine's feet and joints and snout, and fowls; all things to be given in a cold state. . . .[2]

Under the topic of "palpitation of the heart" there is found the following interesting passage:

> "I knew a certain person," says Galen, "who suffered an attack of palpitation of the heart every year in the season of spring. Wherefore, having for three years experienced benefit from venesection, in the fourth he anticipated the attack by getting bled, and so escaped from it, and did so for many years afterwards, using at the same time a suitable diet. And yet even he died before attaining old age, as every other person in this complaint does, some being suddenly cut off in acute fevers by syncope; but some of them without syncope, being unexpectedly deprived of life, as if by apoplexy. The majority of those who are thus affected do not reach the fiftieth year of age, but pass the fortieth."

Finally the ideas held by Paul of Ægina in regard to dropsy are set forth in the following passage:

> Where the liver is greatly congealed, sometimes primarily, as when it has been inflamed, indurated, or otherwise affected, or when from sympathy with other parts the process of sanguinification ceases, and the affection is called dropsy. . . . But, for

---

* This paper is one of the series prepared for and reprinted by the Council on Defense of Medical Research of the American Medical Association for circulation among the public. Fourteen of these pamphlets are now ready, taking up the relations of animal experimentation to ethics, diagnosis, cancer, vaccination, the live stock industry, tuberculosis, typhoid, dysentery, plague, rabies, surgery, internal secretions, the circulation of the blood, protozoan tropical diseases, etc.

3. If the flat base of the growth remains after the sloughing of the necrotic villi, these small areas must be treated in turn directly, to produce a cure. To avoid perforating the bladder, shorter application of fifteen seconds should be used here, such as I used in Case 1.

1. Transl. by Adams, London, 1844.
2. Paul of Ægina: Seven Books . . . . . i, 591.

the most part, it arises from hardness and scirrhus about the spleen and liver, and from chronic deflexions about the intestines; whereby it happens that the belly is swelled, while the rest of the body is melted owing to its not being nourished. . . . Sometimes throughout the whole body a colder and more pituitous blood is collected, either coming from the liver, or deriving its origin from a melting down of the flesh of the whole body, which is as it were converted into water. . . . In treating these complaints, we commence generally with evacuation; but in ascites and tympanites it is by administering hydragogue medicine; and in anasarca by blood-letting. . . . When those who have ascites are not benefited by any of the remedies already described, we must have recourse to paracentesis, which does not apply to any of the other varieties of dropsy.[3]

The quotations cited above show that the theory and practice of the time of Paul of Ægina, which are not to be scoffed at, are based on the physiology of Galen, who, by some, is considered the founder of physiologic experiments, carefully planned and executed.[4] It will do no harm to call attention again to the fact that the first careful experimenter, and the last to experiment prior to the Renaissance, was the authority of all practitioners through the long period of the dark and middle ages. And, it may be added, that so far as Galen's followers expounded views that were the result of experiments on animals, just so far were they indebted to animal experimentation for their clinical knowledge. It would carry me too far afield to attempt a detailed exposition of this dependence.

Nor is the modern practitioner any less dependent on the results of animal experimentation than were his predecessors.

The problem for a physician to solve when confronted with a case of circulatory disease is, which of the many factors in the maintenance of the circulation are at fault? . . . The factors in the normal maintenance of the circulation are: an efficient myocardium with a sound directing innervation, efficient and unobstructing valves at the atrioventricular and arterial orifices, an aorta and branches of suitable caliber with elastic walls.[5]

The part that animal experimentation has played in determining this problem may be made clear by paraphrasing it to suit our purposes, thus: The animal experiments of Harvey, Malpighi and others have demonstrated that in animals the blood is propelled through the blood-vessels in a circle through the pump-like action of the heart, whose active tissue consists of muscle (experiments of Harvey,[6] Stenson[7] and Borelli[8]), not of parenchyma.[9] Clinical experience, viewed in the light of Harvey's experiments, has shown that in man, too, the blood circulates. In disease of the cardiovascular system the circulatory mechanism does not work properly. What is at fault? It may be Harvey's force-pump, not the (mainly) suction-pump of the earlier writers. The pump may fail to work efficiently through unfavorable action of the nerves which regulate its movements. That the nerves of the heart do not determine its action was demonstrated by the experiments of Haller[10] (1757); that the work of the automatic heart is regulated by its nerves was demonstrated by the experiments of the Weber brothers[11] (1845), who discovered the tonic action of the vagus mechanism, and by von Betzold[12] and Cyon,[12] who determined through animal experimentation the action of the accelerator nerve. The contracting myocardium can move the blood in a circle only through the medium of the valves of the heart. It is obvious that any one familiar with the structure of the valves could easily infer their mechanical action, provided the information was at hand as to whether the heart acted after the fashion of a force-pump or a suction-pump or both. Erasistratus seems to have been familiar with the action of the valves, but, swayed as he was by the belief that the heart alternately took in and expelled materials, his knowledge served neither his contemporaries nor his successors any useful purpose. After Harvey had, however, demonstrated the true action of the heart and after this action had been more convincingly demonstrated by the animal experiments of Marey[13] and others, further experiments were needed only for the purpose of working out the finer details of the valvular mechanisms. The need of "efficient and unobstructing valves" became obvious. The mechanical advantages of elastic tubing in the maintenance of the circulation were pointed out by the animal experimenter, Borelli,[14] and the whole question was studied in greater detail by S. H. Weber[15] (1850).

All of the factors in the maintenance of the circulation, then, which a modern clinician considers of prime importance have been brought to light directly or indirectly through animal experiments.

Pre-Harveian treatises on diseases of the blood-vessel system, therefore, differ from modern works on the same subject in at least two fundamental respects: 1. The foundation of the latter consists of a clear conception of the function of the parts concerned, this conception being based for the most part on demonstrated facts. 2. It is recognized in modern treatises that disease is due to disturbed function.

It is interesting to trace in somewhat greater detail the effect that the discovery of the circulation of the blood and the consequent renewed activity in experimental physiology had on the discovery of diseases of the heart. It has been shown that before the time of Harvey diseases of the blood-vessel system received very scant mention in the standard texts. Excepting treatises on the pulse and on bleeding, the writings on the subject were very scant indeed, while but very few distinct diseases were recognized. Of diseases of the heart and symptoms, mention is made in pre-Harveian literature only of hydrops pericardii, syncope, palpitation, erysipelas, abscess, tumors and wounds, the mythical *cor hirsutum*, and, late in the sixteenth century, dilatation, and these conditions were very imperfectly understood.

On the other hand, within the hundred years whose beginning is marked by the publication of Harvey's tract (1628) distinct progress toward the modern conception of cardiovascular disease can be discerned. Harvey himself describes a case of rupture of the left ventricle, and a case of *cor bovinum* with dilatation of the aorta, together with the symptoms during life. Lower, one of a trio of brilliant animal experimenters of Harvey's time, discusses hydropericardium as a result of venous stasis, and also a case of adhesive pericarditis.[16] Cooper described aortic insufficiency and appreciated its

3. Paul of Ægina: Seven Books . . . . , i, 569.
4. Neuburger and Pagel: Handbuch der Geschichte de Medizin, i, 572.
5. Hoover: In Osler's Modern Medicine.
6. Harvey: De Motu Cordis.
7. Stenson: De Musculis . . . . , 1664. Quoted in Neuburger and Pagel: Handbuch der Geschichte der Medizin, ii, 343.
8. Borelli: De Motu Animalium, 1681. Quoted in Neuburger and Pagel: Handbuch der Geschichte der Medizin, ii, 344.
9. See Ozanam: La circulation et le pouls, Paris, 1886, p. 75.
10. Quoted by Howell: Text-Book of Physiology, 1905, p. 496.
11. Quoted by Howell: Text-Book of Physiology, 1905, p. 513.
12. See Richet's Dictionnaire de Physiologie, 1900, p. 103.
13. Trav. du laboratoire de Marey, 1877, iii.
14. Borelli: De Motu Animalium, 1681. Quoted by Neuburger and Pagel: Handbuch der Geschichte der Medizin, ii, 336.
15. Abstr. in Luciani: Lehrbuch der Physiologie, i, 191.
16. Lower, Richard: Tractatus de Corde, 1669. Quoted by Neuburger and Pagel: Handbuch der Geschichte der Medizin, ii, 634.

significance.[17] The same lesion as well as stenosis of the mitral orifice, with an ingenious explanation of the pulse quality in that disease, as well as many other interesting references to cardiac disease encountered in the course of his practice, are mentioned by Vieussens in a work devoted primarily to the normal structure and functions of the heart.[18] Finally, in a work on the movement of the heart and on aneurisms, Lancisi makes many important contributions to cardiac pathology and pathologic physiology.[19] Besides making many other valuable additions to our knowledge, he ascribes sudden death to structural defects, mechanical obstructions and nervous diseases of the heart. He is the first to call attention clearly to the significance of engorgement of the veins of the neck in dilatation of the right cavities of the heart, a diagnostic sign of great importance which could not have been comprehended had Lancisi had at his disposal only the ancient view that the veins and the blood originate in the liver. In this connection he speaks of tricuspid insufficiency. He also understood almost perfectly the symptoms of dilatation of the heart and their cause.

The most important of the early works on diseases of the heart appeared, however, something over a century later than Harvey's great contribution. This is Senac's "Treatise on the Structure of the Heart, on its Action and its Diseases" (Paris, 1749). Perhaps the most striking feature of this work is its modernness. There is no difficulty in comprehending the conditions described by the author; so modern are the thoughts that the reader can hardly believe that he has before him a work written over one and one-half centuries ago. I am of the opinion that Senac's pre-eminence in the field of cardiac pathology must be attributed largely to his grasp of the anatomy and physiology of the heart. However this may be, it is not without significance that of the two large volumes Senac has written on this subject about one and one-half are devoted to an exposition of the anatomy and physiology of the circulation.

Of his many important contributions, space will permit of reference to but one. To Senac must be attributed the recognition of the venous pulse as a diagnostic sign. At the same time he recognizes the most important factor in its production. Speaking of dilatation of the right auricle, he says (p. 411): "It is evident that dilatation of the vena cava should be no less frequent; the blood is pushed with force when contraction diminishes the cavity, and this is the cause of a singular phenomenon; the jugular veins beat with regularity. . . ." Whether Senac was here dealing with the pulse produced by a hypertrophied right auricle or by regurgitation through the tricuspid orifice cannot be determined. From our standpoint, however, it matters little, since in either case the phenomenon, without a knowledge of the "motion of the heart," would have been without significance as a diagnostic sign.

At about the same time Morgagni,[20] the father of pathologic anatomy, called particular attention to the mechanism of the circulatory disturbances caused by valvular lesions and explained the symptom of cyanosis as a congestion of blood.

17. Cooper: Phil. Tr., London, 1705, No. 299. Quoted by Gibson: in Osler's Modern Medicine.

18. Vieussens: Traité nouveau de la structure et des causes des movements naturel du cœur, 1715.

19. Lancisi: De Motu Cordis et de Aneurysmatibus, Rome, 1728. Quoted by Neuburger and Pagel: Handbuch der Geschichte der Medizin, ii, 635; and Rosenstein: in Ziemssen's Handbuch, Ed. 2, 1879, vi.

20. Morgagni: De Sedibus et Causis Morborum, Ven., 1761. Quoted by Ziemssen: Handbuch der speciellen Pathologie, etc., Ed. 2, 1879, iv.

DEVELOPMENT OF CLINICAL METHODS

Through animal experimentation coupled with inferences from anatomy, the circulation of the blood in animals was demonstrated. Observations on human beings sufficed to show that the results of animal experiments were applicable to man without change. And finally clinical conditions were gradually recognized in the light of normal function and a more logical classification of disease became possible. Except, however, the relation between right-sided lesions and venous engorgement and pulsation, exact methods of recognizing pathologic conditions in living man were, aside from the evident symptoms exhibited by the patient, almost entirely lacking. It is to the relation which the development of these methods bears to animal experimentation that attention will next be directed.

At the outset it should be made clear that the problem of developing methods must, from the nature of the case, be largely clinical, since what are desired are methods for the detection of conditions which are commonly seen in man, and rarely in animals, and which may be studied in animals usually only after the diseased condition as disclosed in man has been reproduced in animals.

The methods now employed by the physician in his effort to detect deranged function of the organs of the circulation are usually classified under the heads of inspection, palpation, percussion and auscultation. Three of these principles, namely, inspection, palpation and auscultation, are as old as the seeing eye, the feeling hand and the hearing ear. Their origin, therefore, bears no relation to animal experiments. The same statement is not, however, true of their subsequent development and elaboration. The eye must be trained to see and the hand to feel. Few of us are gifted with the power of seeing or feeling what others before us have failed to see or feel. Yet the eye or hand when provided with a working hypothesis or a demonstrated fact can often discover or discern phenomena which otherwise might have escaped them entirely. For instance, Galen, than whom the world has had no keener observer, must frequently have watched the beating heart exposed in animals—he actually records having seen the beating heart of man, exposed by disease—yet he failed to recognize what Harvey discovered in the same way, but probably with his working hypothesis more or less fully developed, namely, that the active phase of the heart's motion, and the phase corresponding with the pulse in the arteries, is its systole and not its diastole. To the student of to-day, guided, as he is, by demonstrated fact, it is almost inconceivable that any one could for a moment have held any but our present view in regard to the motion of the heart.

Inspection

And so it is that to-day pallor, cyanosis, dyspnea, pulsation in the veins and arteries, as well as many other visible signs of disease are quickly recognized even by the beginner and their significance almost as quickly grasped.

Whereas pallor now, and as was probably the case even at the time of Hippocrates, denotes bloodlessness, we of to-day have learned to distinguish between pallor of several different origins; for example, the pallor of anemia, of deficient heart action (of nervous origin),[21] of deficient vasomotor tone in the splanchnic area,[22] the two

21. Goltz: Virchows Arch. f. path. Anat., 1863, xxvi, 11.

22. Ludwig and Cyon, 1866. Quoted by Luciani: Lehrbuch der Physiologie, i, 281.

latter conceptions arising out of animal experiments, and the pallor of localized vasomotor overaction,[23] likewise a conception which the clinician owes to physiologic experiments. The ability to distinguish these and other types of pallor is not merely an accomplishment devoid of all practicality; rather it is through this ability that the practitioner is placed in a position to discover causes and to remove them by means of rational treatment directed specifically to them and, if it is so desired, to nothing else.

To be somewhat more specific, I shall quote for purposes of illustration a passage from Paul of Ægina. Under the title of "Deliquium Animi or Swooning" (one of the topics treated under "Fevers") this author says:[24]

> Several strong ligatures are likewise to be applied; when the evacuations are downward, to the arms, and, when upward, to the legs. The patients are also to be placed in an easy erect posture, and a cupping instrument applied, so as to produce revulsion to the opposite part of the body. . . .

It is quite unnecessary to call the attention of the reader to the points at which the above (which probably is largely Galen's) treatment is at variance with ours, which is dependent on modern conceptions, both mechanical (Spallanzani[25] (1729), Haller,[26] and others) and vasomotor (Bernard[23] and others) of the circulation.

Cyanosis, too, has always been recognized; but how, in the absence of facts brought to light by animal experimentation, could the distinction be made between the cyanosis of acquired heart disease, where it always is an indication of back-pressure into the veins from a congested right heart,[29] the cyanosis of insufficiently aerated blood (Lower, Mayow and Guericke, Lavoisier and others[27]) and the cyanosis of local asphyxia, probably of vasomotor origin (Bernard,[23] Thompson[28] and others).

Dyspnea as a symptom of cardiovascular disease is occasionally hinted at by the early writers. Thus, Paul of Ægina says: "When the heart is overheated it renders the respiration large and dense, but when it is too cold the respiration is small and rare."[29] This relation between the heart and the respiration was probably suggested by the Galenic doctrine that the main functions of respiration were to remove from the body the fuliginous vapors and to cool the blood which is warmed by the innate heat of the heart. That there is an element of truth in this doctrine cannot be denied (and we should not lose sight of the fact that this, in large part, is the fruit of animal experiments), yet it is evident that such a view would have been entirely inadequate to bring to light the true clinical significance of cardiac dyspnea. Deficient internal respiration due to slowing of the blood-stream (a sequel to the demonstration of the circulation) and engorgement of the lungs, on which depends also the hemoptysis of heart disease (Albertini[30]), now account quite satisfactorily for this condition and suggest lines of treatment.

Palpation

The way in which the animal experimenter has helped our hands to feel for clinical states also may be illustrated by a few examples.

From time immemorial the pulse has been held to have great diagnostic value. Indeed, until quite recently and even now in some parts of the world, China, for instance, a great deal more significance was or is attributed to the pulse than is justified by experiment. The result was that classification of the pulse was carried to a degree of refinement that is bewildering. Thus, Sanctorius, in 1625, recognizes seventy-three significant kinds of pulse.[31] His time probably marks the pinnacle of pulse analysis. With the advent of careful experimental methods, as laid down by Harvey, and largely through the efforts of experimentalists, the Weber brothers[32] in particular, and down even to the present day[33] the number of significant varieties of pulse has constantly diminished. And, what is of far greater interest, the significance of the few varieties now recognized has become far more definite. The first step toward this simplification was made by Harvey when he recognized the right relation between the contraction of the heart and the pulse in the arteries. Paul of Ægina thus explains the Galenic view of the pulse:

> The pulse, is a movement of the heart and arteries, taking place by a diastole and systole. Its object is twofold; for by the diastole, which is, as it were, an unfolding and expansion of the artery, the cold air enters, ventilating and resuscitating the animal vigor . . .; and by the systole, which is, as it were, a falling down and contraction of the circumference of the artery towards the center, the evacuation of the fuliginous superfluities is effected. . . . They (the arteries) arise from the heart, and are distributed to all parts of the body, and, therefore, all the arteries pulsate in a similar manner and like the heart, so that from one of them you may judge concerning all the rest.[34]

The fact that "all the arteries pulsate in a similar manner and like the heart" is the very foundation of the diagnostic significance of the pulse. Naturally, however, the errors in the Galenic conception dragged into medicine along with them many misconceptions with regard to the mechanism of the pulse, and consequently led the physician to feel events which actually do not transpire. For instance, we find that, in accord with the idea that the pulse consists of an active systole and an even more active diastole of the artery itself, the Galenists divided the time of rest between pulses into the diastolic rest and the systolic rest. With the adoption of the views on the pulse as determined by Harvey, by the Weber brothers, animal experimenters, and with the invention of the first practical sphygmograph by animal experimenters (Vierordt[35] and Marey) the clinicians came into the right conception as to the form and time relations of the pulse: the distinction made by the Galenists, which we now know to be without foundation in fact, is no longer taught. The chief value of the sphygmograph, it should here be added, does not consist in the means it affords us of making for purposes of study a graphic record of the pulse, although this result is not to be undervalued; rather it is that the knowledge of the true form of the pulse-wave as determined with the sphygmograph makes it possible for the student to discern more easily and to value by simple palpation what otherwise he might never, or only after diligent application, learn to discover.

It may reasonably be doubted whether the Galenists had any clear ideas in regard to pressure and pressure variations in the arteries and veins. It is true that in

23. Bernard and Brown-Séquard, 1851-2; Quoted in Schäfer's Text-Book of Physiology, 1900, ii, 131.
24. Paul of Ægina: Seven Books . . . . , i, 327.
25. Quoted by Ozanam: La circulation et le pouls, p. 110.
26. Quoted by Neuburger and Pagel: Handbuch der Geschichte der Medizin, ii, 351.
27. Neuburger and Pagel: Handbuch der Geschichte der Medizin, ii, 341 et seq.
28. Thompson: Jour. Physiol., 1894, xvii, 120.
29. Paul of Ægina: Seven Books . . . . , i, 501.
30. Neuburger and Pagel: Handbuch der Geschichte der Medizin, ii, 636
31. Quoted by Ozanam: La circulation et le pouls, p. 49.
32. Quoted by Neuburger and Pagel: Handbuch der Geschichte der Medizin, ii, 373.
33. Frank: Ztschr. f. Biol., 1905, xlvi, 441.
34. Paul of Ægina: Seven Books . . . . , i, 202.
35. Vierordt: Die Lehre vom Arterienpuls in gesunden und kranken Zuständen, Brunswick, 1855.

their classification of pulses they speak of the "consistence of the body of the artery"[36] and distinguish three varieties thereof, namely, hard, soft and moderate; yet it cannot be made out from the context whether "consistence" is a property of the arterial wall proper or one imparted to it through the pressure of the blood in the lumen.

However this may be, we owe to the Rev. Stephen Hales[37] the demonstration, by means of his classical experiments on animals, of the pressure in the arteries and veins and some of their variations. These experiments, multiplied and analyzed by subsequent investigations (Ludwig,[38] Marey[39] and others), gave to the practitioner a new clinical idea, that of attempting to determine by palpation the degree of arterial tension and to correlate tension with the clinical picture as a whole.

It was Traube who introduced the term "tension of the arterial wall" into the clinic. He had so often felt of the exposed artery of animals and had so often compared this with the pressure as measured by a manometer connected with the artery that he was in a position to estimate through palpation alone the pressures in man.[40] But Traube's method of training the touch is not a practical one for general use. Furthermore, palpation of pulse tension, like palpation of pulse form, had to be controlled and taught with the aid of some instrument of greater precision than the finger. The sphygmomanometer, the first practical form of which was devised by an animal experimenter and clinician (von Basch[41]), and which has been tested by animal experiments, was the result of this need. With this instrument Cushing,[42] guided by experiments performed on animals, discovered not only a sign of intracranial hemorrhage, but also a signal for operative interference in that condition. Most of the work in this field, however, is so recent that it is hardly necessary to refer specifically to other practical results that have come of it in the diagnosis, prognosis and treatment[43] of cardiovascular disease. I cannot refrain, however, from making a brief reference to a recent report by Williamson showing the prognostic value of blood-pressure estimations. Of seventeen patients with a blood-pressure over 200 mm. Hg. (the normal is about 120) Williamson was able to keep track of thirteen. Of these, eight had died within from two to three years.[44]

Neither inspection nor digital palpation sufficed for the correct analysis of the venous pulse. This was not possible until we had at hand the results of animal experiments (Riegel,[45] Frédéricq,[46] Porter[47] and others) and until such results had been applied practically in the analysis of the human venous pulse (Riegel,[45] Mackenzie,[48] and others) through the use of graphic methods primarily developed by animal experimenters (Ludwig, Marey and others). This whole subject is so new that it is quite unnecessary to remind the clinician of the practical results in the diagnosis of cardiac disease that have accrued therefrom.

36. Paul of Ægina: Seven Books . . . . , i, 202, et seq.
37. Hales, Stephen: Statical Essays, 1733.
38. Ludwig: Arch. f. Physiol., 1847, p. 243.
39. Chauveau and Marey: Mém. Acad. de med., 1863, xxvi, 302.
40. Quoted by von Basch: Berl. klin. Wchnschr., 1887, xxiv, 179.
41. Von Basch: Ztschr. f. klin. Med., 1880, ii, 79.
42. Cushing: Am. Jour. Med. Sc., 1903, cxxv, 1017.
43. Oliver: Treatment of High Blood-Pressure, Med. Press and Circular, Feb. 2, 1910.
44. Williamson: Clin. Jour., June 30, 1909.
45. Riegel: Deutsch. Arch. f. klin. Med., 1882, xxxi, 1, 471.
46. Frédéricq: Trav. du. laboratoire de Liège, 1890, iii, 85.
47. Porter: Jour. Physiol., 1892, xiii, 513.
48. Mackenzie: Brit. Med. Jour., March and April, 1905.

Percussion

The direct object of percussion is anatomic rather than physiologic; it seeks to determine the limits of organs and the nature of their contents. Its indirect object, however, is to discover disturbed function. It therefore follows that the intelligent interpretation of the secrets brought to light by percussion can be made only by one who is familiar with the physiology, normal and pathologic, of the organs of the body. I quote in this connection the views on this subject held by Corvisart, the practitioner first to employ intelligently the method of percussion for the purpose of discerning cardiac disease. In his epoch-making work, in which are set forth the results of his clinical observations, Corvisart first discusses the relation of the development of anatomy and of pathologic anatomy to diseases of the heart and then proceeds to say:

> But it were very erroneous to think morbid anatomy sufficient to accomplish this end; it is quite the reverse: the physician who does not unite physiology [when I say physiology, I mean, once for all, the physiology of experience and observation (ever-cautious of the too easy indications from analogy) but not the systematic physiology which is often supposing, and constantly explaining] with anatomy will ever remain a more or less dextrous, industrious, and patient inquirer, but he will never become a firm and decisive practitioner, particularly in the treatment of the organic lesions.[49]

The facts brought to light by percussion, then, are, in the opinion of the founder of cardiac nosology, of the greatest significance only when viewed from the standpoint of experimental physiology.

Auscultation

Who, if not the practicing physician, would be expected to discover the sounds emitted by the beating heart? The nature of his work requires that the clinician keep alert all of his senses in his effort to bring to light the diseases he may encounter in his practice. The time and energy devoted to human beings for this purpose far exceed those devoted to animals. Yet Harvey, animal experimenter, as well as clinician, seems to have been the first to call attention to the fact that, simultaneously with pulsation, a sound can be heard in the chest.[50] To the practitioner Laennec, however, belongs the credit of developing clinical auscultation.[51] Whether or not Laennec himself performed experiments on animals I have been unable to determine. As a pupil of Corvisart (see above) he must, however, have taken at least an active interest in experimental physiology. That he did avail himself of the results of animal experimentation in the interpretation of auscultatory phenomena is seen in the following quotation, which at the same time will serve to indicate that had Laennec had just a little more first-hand knowledge of the action of the heart he might have succeeded in making a better interpretation of the facts revealed by his clinical observations.

> At the moment of the arterial pulse the ear is slightly elevated by an isochronous motion of the heart, which is accompanied by a somewhat dull, though distinct sound. This is the contraction of the ventricles. Immediately after, and without any interval, a noise resembling that of a valve, or a whip, or the lapping of a dog, announces the contraction of the auricles. . . . Immediately after the systole of the auricles there is a very short, yet well marked interval of repose. . . . This state of quietude after the contraction of the auricles

49. Corvisart: Essai sur les maladies et les lésions organiques du cœur . . . . , 1806; transl. by Gates, 1812.
50. Luciani: Lehrbuch der Physiologie, 1905, i, 152.
51. Laennec: Traité de l'auscultation médiate . . . . , 1819; transl. by Forbes, 1823.

does not appear to have been known to Haller as a natural condition.[52]

Laennec therefore accepts without question the fact shown by Harvey and later first utilized by Albertini[53] as a diagnostic sign, that the apex-beat occurs with systole; while at the same time he calls attention to what he believes to be an oversight on the part of Haller—by many considered the father of modern experimental physiology—in regard to the time relation of auricular and ventricular systole.

But if Laennec had only taken the pains to examine an exposed beating heart in the light of his clinical observations, he never would have made the mistake of attributing the second sound to the contraction of the auricle, nor would he so quickly have jumped to an erroneous conclusion in the face of the results of direct experimental observation. Not very many years had elapsed, however, when Turner,[54] interpreting correctly the results of physiologic experiments as recorded in Haller's "Elementa," objected to Laennec's views on the cause of the second sound on the ground that the contraction of the auricles precedes that of the ventricles, and does not follow it as Laennec had assumed.

The limits of this paper make it impossible to trace for the reader the development of our knowledge of the cause of the heart sounds.[55] The statement must suffice that through combined clinical (Laennec, Skoda, etc.) and experimental observation, the most noteworthy of which were made by a committee of the British association under the leadership of Williams,[56] and the later experiments of Hürthle[57] and others, we are now quite certain of the true relations which the sounds bear to the events of the cardiac cycle, notwithstanding the existence at the present time of some uncertainty as to the causes of some of the normal sounds. With regard to abnormal heart-sounds, deductions from normal physiology as well as experiments in pathologic physiology have served to indicate to the clinician their meaning and even their diagnostic value. For example, a ringing aortic second sound indicates to the clinician an abnormally high aortic tension. Harvey's experiments in themselves might have suggested this, but the conclusive proof of it was offered by the experiments of Williams and others, who showed that the second sound arises in the arterial valves and that its intensity diminishes when the arterial tension is lowered. If the reader is desirous of further instances of this nature he may consult any of the modern handbooks on diseases of the heart; for example, the article by Gibson on cardiac insufficiency in Osler's "Modern Medicine," which he will find to be practically an article on applied physiology—physiology made up almost exclusively of experiments on animals.

(Chapter III will appear next week)

148 West Gorham Street.

Wassermann Test for Determination of Paternity.—Hochsinger reports some cases of a child born with inherited syphilis, but neither husband nor wife showed any traces of the disease and both gave a negative seroreaction or the woman alone responded positively. In each instance the circumstance was cleared up by the mother's confession, the paternity being extraconjugal. His communication is published in the *Mitt. d. Gesellsch. f. inn. Med. u. Kinderh.*, ix, 1910, page 53.

52. Laennec: Traité de l'auscultation médiate . . . , p. 256.
53. Quoted by Ziemssen: Handbuch der speciellen Pathologie, etc., 1879, vi.
54. Ref. Luciani: Lehrbuch der Physiologie, 1905, i, 152.
55. An excellent account of this subject is given by Luciani: Lehrbuch der Physiologie, 1905, i, 152.
56. Report of the Brit. Assn., 1836, vi, 265.
57. Hürthle: Arch. f. d. ges. Physiol., 1895, lx, 263.

SOME ALLEGED EFFECTS OF SODIUM BENZOATE AND BENZOIC ACID

C. A. HERTER, M.D.

U. S. Referee, Professor of Pharmacology, Columbia University; Consulting Physician, City Hospital

NEW YORK

In a recent number of this journal [1] Dr. D. R. Lucas has published certain statements in regard to the action of benzoate of soda which are so much at variance with facts as to call for criticism and correction. The circumstance that these statements have emerged from the laboratory of a leading university is liable to secure for them a hearing which would scarcely be accorded otherwise.

I have no intention of entering here on a detailed examination of the claims set forth in the paper to which I refer; but there are a few points on which I deem it my duty to make at least some comment, despite the fact that this task is highly distasteful to me.

I

At the beginning of the paper there is presented a table showing the influence of various drugs on the action of ferments. This table is based on data given many years ago by T. Lauder Brunton and is designed to show that benzoic acid exerts a relatively strong inhibiting action on emulsin, pepsin, etc. The generalization is then made that from these data it is evident that the inhibiting action of the given amounts of benzoic acid in combined form (e. g. sodium benzoate) is very much weaker than when the benzoic acid is free. This statement, which on superficial observation appears very damaging to benzoic acid, is exactly paralleled by the platitude that sodium chlorid has a much weaker action than free hydrochloric acid. In other words, it is a statement which is true of acids in general, as has long been well known. As a matter of fact the figures given by Brunton and quoted so confidently in the above-mentioned paper, have been shown by Dr. Dakin to be entirely erroneous and misleading, as I shall show in detail in a forthcoming publication.

Here it must suffice to state that the claim that peptic digestion is easily arrested by benzoic acid in the proportion of 1 to 200 is entirely erroneous. Peptic digestion may proceed actively under suitable conditions in a solution completely saturated with benzoic acid, although naturally here the velocity of the action is diminished. One-tenth of 1 per cent. of benzoic acid retards peptic digestion about 12 per cent. When the circulation of free hydrochloric acid is low the effect is still less. One-tenth of 1 per cent. of benzoate of soda has no marked effect on tryptic digestion of casein. Seven-tenths of 1 per cent. of benzoate of soda has about 10 per cent. retardation.

These figures are true for human trypsin as well as for that of animals. It is thus evident that no important effects on peptic or tryptic digestion are exerted *in vitro* by the above mentioned concentrations.

II

Dr. Lucas' paper contains the statement that "sodium benzoate in proportions equal to about 1 per cent. was found to be a poor preservative of neutral or weakly acid media." It is true that sodium benzoate is not a powerful preservative, but the statement just quoted is highly misleading for the reason that most bacteria

1. Lucas, Daniel R.: Some Effects of Sodium Benzoate, THE JOURNAL A. M. A., March 5, 1910, liv, 759

in media neutral to litmus (e. g. sugar bouillon) are very much retarded in their growth or wholly inhibited by percentages of sodium benzoate ranging from 0.2 per cent. to 0.5 per cent. For example, Professor Theobald Smith of Harvard University found that the growth of typhoid bacilli was greatly retarded by 0.3 per cent. of sodium benzoate and completely inhibited by 0.5 per cent.

III

The statement is made that "benzoic acid, liberated from sodium benzoate by strongly acid fruits or vegetables and taken in them, even in small amounts, into an empty stomach, is sufficiently irritating to cause gastro-intestinal disturbances as well as systemic symptoms." It is, of course, obvious that acids, when liberated from their salts by other acids, are more apt to act as irritants than when these acids are neutralized by bases. And naturally benzoic acid is no exception to the general rule.

The assertion that injurious effects are obtained on the digestive tract and on other parts of the body is based on conditions very foreign to anything that happens in the course of any sane habit of diet. Large quantities of acid fruit-juices were employed in these experiments. In the second place, these acid materials were taken on an empty stomach. In the third place, the concentrations and the amounts of benzoic acid taken were far in excess of any quantities that would be consumed by persons in a normal state of mind and with a normal appetite. There is one possible exception to the latter statement and that is in the case of cider, which a person sometimes so gormandizes as to consume several liters of cider in the course of a few hours. Even here it is hardly conceivable that more than 2 or 3 gm. of free benzoic acid would be ingested.

IV

The character of the expedients employed to show the detrimental action of sodium benzoate is well shown in the pointless experiments on dogs, which were fed enormous doses of sodium benzoate from which the acid was liberated by means of hydrochloric acid and citric acid. Among others, the following is reported: A fasting dog weighing 3.5 kilos received sodium benzoate and hydrochloric acid in a preliminary experiment. The day after recovery from muscular weakness, nausea, etc., it received four gm. of sodium benzoate in an amount of hydrochloric acid theoretically sufficient to decompose it completely to free benzoic acid, together with 100 c.c. of a 2 per cent. citric acid solution. The animal became very weak, developed convulsions and died soon after the dose, showing congestion, ulceration and hemorrhage, etc. in the digestive tract, liver and lungs.

Anyone who will reflect on what this experiment represents in the way of benzoic acid in a human being will see that it is equivalent to giving 80 gm. of benzoate of soda to a man weighing 70 kilos. The effect in such an experiment is to liberate benzoic acid in its most concentrated form, to say nothing of free solid benzoic acid. How any other outcome than gross damage to the digestive tract was to be expected it is difficult to see, the results obtained being merely in accord with what every pharmacologist knows to be the action of strong acids. The fact that dogs receiving hydrochloric acid and citric acid in considerable quantities without benzoic acid did not become sick and die presents no unexpected features. It is doubtful if any competent, fairminded investigator, or anybody gifted with a sense of humor would put forward such an infelicitous experiment as the one quoted above as an argument in regard to the action of benzoic acid as a food preservative.

V

Among the claims made in regard to the injurious action of benzoic acid is the one that the presence of benzoic acid in acid fruits and fruit-juices gives rise to albuminuria, sometimes associated with nephritis. Experiments made in my laboratory with the administration of several grams of free benzoic acid daily in apple-butter or cider, failed to show the presence of albuminuria. In one of our subjects a faint trace of albumin was found from time to time during the experiments and also at other times. A careful expert examination with the cystoscope showed a slightly tender spot in the posterior urethra. No casts or evidence of renal irritation were found. Similar experiments with large quantities of benzoic acid in acid media have been made by various colleagues, including Professor Long,[2] without any of the results described in Dr. Lucas' paper.

The circumstance that the blood possesses an abundance of alkali with which to neutralize free benzoic acid, even in doses far above those obtainable in preservatives, explains why this acid, ingested in moderate amounts, can give rise to no injury of the kidneys, since the salts of benzoic acid, like the salts of most ordinary acids, are without injurious effects on the kidneys. It is necessary for those who are responsible for the claim that benzoic acid is the cause of albuminuria to give the exact methods by which the presence of albumin was ascertained—a precaution which is omitted in the published results. In this connection it should be recalled that benzoic acid was formerly used freely in bladder disease in large doses without any evidence that it was injurious to the kidneys.

VI

The tables in the paper under discussion give the impression that when benzoate of soda is ingested it is followed by the appearance of reducing substances in the urine attributable to the benzoic acid. Unfortunately the author has committed the flagrant error of making no adequate controls based on the action of cider alone. I wish to state that unbenzoated cider, 2 liters in the course of the day, in many persons gives rise to a marked increase in the reducing substance of the urine. For this reason it is wholly unfair on the strength of the data given to implicate benzoic acid in the causation of the reducing action noted. There is not the slightest evidence that this is the case. On the contrary, a series of experiments by Dr. Wakeman, made with scientific accuracy, showed that the action of benzoated cider was exactly paralleled by the action of unbenzoated cider. An accurate comparison of the varying reducing power of the urine with Fehling's solution can be excessive must suggest an injurious action of which definite volumes of Fehling's solution and of urine of definite specific gravity are employed and boiled for the same length of time, the results being recorded after a

2. Professor Long reports the results of experiments on three men who drank strongly acid lemonade containing benzoate, through a period of five days. The average acidity of the lemonade was 0.14 normal (equivalent to 8.4 grams of acetic acid per liter), and the amounts consumed were as follows, in the mean: Subject 1, daily, 700 c.c. of lemonade with 2.6 gm. of benzoate; subject 2, 700 c.c. of lemonade with 2.9 gm. of benzoate; subject 3, 600 c.c. of lemonade with 2.4 gm. of benzoate. The highest amounts of benzoate taken daily were 3.75, 5.00 and 5.00 grams respectively. Careful tests of the urine through the five days of the experiment, and for several days subsequently, failed to show the presence of even traces of albumin, or of reducing substances acting on Fehling's solution. No abnormal behavior of any kind was observed.

definite lapse of time. These essential precautions have been wholly neglected in the paper under consideration.

It is well known that large doses of benzoate of soda (10 to 20 gm. daily) cause the appearance of increased reduction in the urine due to the glycuronic acid. Somewhat smaller doses may sometimes suffice to do this. The relatively small quantities taken in benzoated cider do not suffice to produce this effect. The reducing substance present after taking very large doses of sodium benzoate has nothing whatever to do with the appearance of sugar in the urine and this point should be clearly understood.

VII

One other instance may be mentioned of the incorrect statements in which this paper abounds. The statement is made that after taking benzoated cider "excessive amounts of hippuric acid were eliminated." It is not clear what is meant by excessive amounts of hippuric acid, but the implication that the amounts observed were excessive must suggest an injurious action of which there is, of course, no evidence whatever. That this implication is clearly the intent, in the paper under consideration, is shown by the coupling of the above statement with the information that the urine was reduced in amount.

Not the remotest evidence exists that the excretion of hippuric acid, even in very large amounts, ever causes any damage to the kidneys. On the contrary, the evidence is all in the other direction. The paper quoted leaves us entirely in the dark as to what constitutes an excessive amount of hippuric acid and it surely would be no easy matter to give any rational meaning to such an expression.

If it were worth while to cite further examples of the untrue statements with which this paper abounds it would be an easy undertaking. But I think that enough has been said to show the unreliable and biased nature of Dr. Lucas' publication; and it may safely be left to the fair-minded reader to put a valuation on the conclusions of the paper in question.

819 Madison Avenue.

PANCREATITIS FROM THE STANDPOINT OF THE CLINICAL SURGEON

A. J. OCHSNER, B.S., F.R.M.S., M.D.

Surgeon-in-Chief, Augustana Hospital and St. Mary's Hospital; Professor of Clinical Surgery in the Medical Department of the University of Illinois

CHICAGO

Since the surgeon has come to consider pancreatitis habitually with the same uniform system that he considers all other important intra-abdominal pathologic conditions, our appreciation of its importance as well as our knowledge of this condition have acquired reasonable dimensions.

ETIOLOGY

In 1895 my attention was directed to the practical side of the subject during a visit to Mayo Robson's clinic in Leeds, but it was only after his enthusiastic presentation[1] before the International Congress in Paris in 1900 that I really awoke to an appreciation of the value of his observations. Undoubtedly, the infection usually travels up the common duct into the gall-bladder where there is a possibility for the accumulation of a large quantity of infected bile mixed with mucus, which on its way down the common duct is easily diverted into the pancreatic duct if there is obstruction owing to the presence of gall-stones or of edema below the point at which the duct of Wirsung empties into the common duct.

In my cases the irritation of the common duct has been due quite as often to the passage of infected sandy bile as to the presence of gall-stones.

There is much difference in the statistics of various authors regarding the relative frequency with which pancreatitis accompanies gall-stones. This is probably due to the fact that the diagnosis of pancreatitis is based on the impression the surgeon obtains from palpating the gland during operation, and one surgeon may consider the gland practically normal in an individual instance in which the same condition would impress another surgeon as representing a certain degree of enlargement.

Unless a surgeon has examined many cases in which the abdomen was opened for conditions which could have no relation with the condition of the pancreas in order to become familiar with the feeling of a normal pancreas it is not likely that his judgment in this matter can be entirely satisfactory.

It is therefore well to palpate the pancreas in cases of operation for the removal of uterine fibroids or ovarian cysts and other similar conditions. This can be done readily while the surgeon's hand is in the upper portion of the abdomen for the purpose of examining the gall-bladder.

All surgeons with large experience in this especial direction seem to agree that pancreatitis patients almost invariably suffer from disease of the gall-bladder or ducts and that gall-stones in the common duct are more commonly accompanied with pancreatitis than stones in the gall-bladder (Robson,[2] Mayo,[3] Moynihan,[4] Egdahl,[5] Opie.[6])

It has been suggested by Williams and Bush,[7] and apparently confirmed by careful experimentation, that anatomic peculiarities interfering with the free drainage of pancreatic juice through the ducts of Santorini or Wirsung provide favorable conditions for the infection of the pancreas. It is plain that when the natural conditions for free drainage of pancreatic juice are unfavorable, complete obstruction, due to the presence of gall-stones or edema, is much more likely to occur.

The colon bacillus is the most common cause of the infection, and this is frequently associated with the streptococcus and the staphylococcus, according to the investigations of Egdahl[5] and others.

Pancreatitis, in common with all inflammatory diseases of the gall-bladder and ducts, frequently follows the inflammatory diseases of the gastro-intestinal tract.

After the pancreas has once been infected a species of vicious circle is developed from the fact that the swollen pancreas obstructs the portion of the common duct which passes through the head of this organ, and this favors the development of septic micro-organisms above this point as well as their further backing up into the pancreas. It is for this reason that the free drainage due to cholecystostomy has given such uniformly favorable results.

PATHOLOGY

All these facts seem to bear out the theory commonly accepted at the present time that, barring the rare occur-

1. Robson-Mayo: Tr. Internat. Med. Cong., Paris, 1900.

2. Robson-Mayo: Lancet, London, 1900, Vol. ii.
3. Mayo, W. H.: Pancreatitis Resulting from Gall-Stone Disease, THE JOURNAL A. M. A., April 11, 1908, l, 1161.
4. Moynihan: Keen's Surgery, Vol. iii.
5. Egdahl: Jour. Surg. Gynec. and Obst., 1907, iv, 599.
6. Opie: Diseases of the Pancreas, 1903.
7. Williams and Bush: Tr. Assn. Am. Phys., 1907, p. 304.

rence of metastatic infection, pancreatitis is due to infection from the alimentary canal, usually through the biliary passages, or, according to Maugaret, more especially through the lymphatic system of these passages. The acute violent cases of hemorrhagic pancreatitis are apparently due to retrograde injection of the pancreas with infected bile and pancreatic juice which, according to Flexner, must be in a relatively concentrated form.

In these cases which take a violent acute course there is commonly a rapid destruction of the gland parenchyma.

In the chronic forms, on the other hand, the inflammation results in interlobular fibrous tissue hyperplasia. The secreting cells of the acini are more readily destroyed than the islands of Langerhans. This fact would account for the relative infrequency of glycosuria in mild or early cases of pancreatitis.

DIAGNOSIS

Until recently the diagnosis of pancreatitis was made incidentally only during the progress of operations on the gall-bladder or biliary tracts and the stomach. Since the attention of the surgeons was generally directed to this condition by Mayo Robson,[1] Riedel,[9] Mayo and others, the diagnosis has frequently been made before and confirmed during the operation. From this it has become possible to associate the condition of pancreatitis with a number of more or less typical diagnostic signs observed before operation.

In 1904 Cammidge,[10] in connection with the clinical work of Mayo Robson, brought out a most ingenious chemical test which promised to be of great value in the diagnosis of this condition.

The method has been described most clearly by Schroeder,[11] as follows:

> Forty c.c. of the urine, filtered, acid reaction, free from albumin and sugar, are boiled with 2 c.c. of strong hydrochloric acid for ten minutes. After partly cooling, 8.0 gm. of lead carbonate are gradually added. When the reaction is complete, the mixture is chilled, filtered and the excess of lead in solution removed by addition of 2 gm. of sodium sulphate bringing the mixture to a boil, chilling and filtering to 20 c.c. To this filtrate is now added a mixture of phenylhydrazin hydrochlorate 0.80 gm., sodium acetate 2.0 gm. and of 50 per cent. glacial acetic acid 1 c.c. and the whole is boiled on a sand-bath for ten minutes. The solution is then filtered while hot and set aside to crystallize. The precipitation of crystals, sometimes only in microscopic quantities, of the characteristic formation of ozazones, makes a positive reaction.

In 1905 I had a large number of tests made at the Augustana Hospital laboratory on patients who were later operated on so that the findings could be judged as to their reliability by the actual examination of the pancreas. These tests were carried out by Dr. J. L. Yates, then my chief assistant, whose large experience as a carefully trained laboratory investigator fitted him particularly for this task. He had, moreover, assisted me in the diagnosis, operation and after-treatment of a great number of cases belonging to this special group, so that he also possessed a large experience as clinical surgeon.

These tests were extremely fascinating, but it seemed to us that it required too much of the personal element of the observer to make the method useful except in the hands of unusually skilful experts.

The fact that surgeons like Robson and Moynihan continue to trust this test is, however, sufficiently important to convince me that it contains real merit.

SYMPTOMS

If we add to the well-known symptoms of cholecystitis an area of tenderness from 5 to 10 cm. long located to the right of the umbilicus over the middle of the right rectus abdominis muscle in cases in which we can exclude a diagnosis of duodenal ulcer we have the typical symptoms on which to make a diagnosis of pancreatitis.

In duodenal ulcers there are two symptoms usually present which are not symptoms of pancreatitis: (1) pain before meals when the stomach is empty and (2) hyperchlorhydria with eructation.

In pancreatitis there is frequently referred pain to the mid-scapular or left scapular regions. In gastric ulcer the same pain is commonly present, but with this there is pain on deep pressure at a point half-way between the ensiform appendix of the sternum and the umbilicus.

There are, of course, cases in which two or more or all of these conditions are present in the same patient and other cases in which it is possible only to determine the fact that one or more of these conditions are present, while a strict differential diagnosis may not be possible. In these cases, however, it is quite possible to determine the necessity of an exploratory incision, and, when the indications for this are not clear, then it is usually safe to keep the patient under dietetic treatment until further study of the case has cleared up the diagnosis.

Solomon[13] has pointed out the fact that in the presence of pancreatitis von Noorden's oatmeal diet gives rise to typical butter stools and that an abnormally large amount of lecithin is excreted. From 0.4 to 1.2 gm. is excreted in twenty-four hours when these patients are placed on an egg diet, while normal individuals excrete not to exceed 0.1 gm. under similar feeding.

According to Schlecht[14], Mueller's test is quite reliable. The patient is given a test meal which is followed after two hours by a calomel purge. A few drops of the stool are sterilized by heat, then placed on an agar plate containing Loeffer's serum. The plates are kept in an oven at 131 to 141 F. for twenty-four hours. If trypsin is present the serum shows pronounced depressions, if absent the surface is smooth. Lepine[15] has made most interesting but very complicated experiments which he claims are valuable in the diagnosis of this condition.

In advanced cases there is usually marked emaciation frequently with peculiar circumscribed areas of fat in roll-like masses on the front and sides of the chest and abdomen. There is usually marked anemia present, often approaching chlorosis with degeneration of the erythrocytes. Many of these patients suffer from obstinate constipation while others have equally troublesome diarrhea.

Sugar is present in only a small proportion of these cases.

TREATMENT OF CHRONIC PANCREATITIS

The treatment must consist primarily in relieving the irritation due to the backing up of infected bile by establishing free drainage which must be sufficiently permanent to permit complete restoration of gall-bladder and ducts as well as the pancreatic ducts. It is important to keep the intestines and stomach normal and free from irritation permanently by the use of proper diet and hygiene after these operations.

In case gall-stones or pancreas stones are present, these must be removed, whatever their location may be. In rare cases in which the common duct is permanently obstructed, cholecystenterostomy may be indicated.

9. Riedel: Berl. klin. Wchnschr., January, 1896.
10. Cammidge: Lancet, London, 1904, i, 776.
11. Schroeder: Surgery, Gynec. and Obst., December, 1908.
13. Solomon: Wien. klin. Wchnschr., April 2, 1908, No. 14, p. 453.
14. Schlecht: München. med. Wchnschr., lv, No. 14, p. 713.
15. Lepine: Rev. méd., No. 14, xxviii, p. 157.

It is probably best to make the anastomosis between the gall-bladder and duodenum where possible and between the gall-bladder and jejunum through an opening in the transverse mesocolon where the duodenum cannot be safely reached. The suture method should be employed similar to the one employed in posterior gastroenterostomy.

ACUTE PANCREATITIS

It is difficult to make a differential diagnosis in acute pancreatitis with any degree of certainty because there are several other violent acute conditions which are so similar in their symptoms that they can probably never be positively excluded. The conditions most likely to be confounded are (1) perforation of the posterior wall of the pyloric end of the stomach; (2) perforation or gangrene of the gall-bladder or duodenum.

Cases of severe acute pancreatitis have been diagnosed as acute intestinal obstruction, renal colic, ectopic gestation and, of course, appendicitis and gall-stone colic.

In acute pancreatitis the pain is extremely severe in the right upper quadrant of the abdomen. There is intense shock; nausea and vomiting are usually present and the patient gives the impression of being at the verge of destruction. The abdominal muscles are tense, although Moynihan[4] found this symptom absent in some of his cases. There is usually a steady rise of the pulse from the onset.

In these cases there is usually a history pointing to gall-stone colic in previous milder attacks (Fitz[16]).

If a tumor be felt there is usually tympanitis on percussion over this surface because the gland is located behind the duodenum (Elliott[17]).

Cyanosis has been observed by Opie and others. Sugar is present in the urine in some cases. Egdahl[5] gives a careful review of 107 cases in his study of the symptoms and diagnosis of acute pancreatitis which is well worth the careful consideration of the clinician.

SURGICAL TREATMENT OF CHRONIC PANCREATITIS

In chronic pancreatitis the treatment originally practiced and advised by Mayo Robson, consisting in the establishment of perfect drainage through a cholecystostomy opening, seems to be still the best. The edema of the common duct and the pressure and consequent obstruction due to the presence of an enlarged pancreas are thus relieved and with this the pancreas and the liver are simultaneously reduced to a normal size.

The portion of the gland that has been hopelessly destroyed is, of course, permanently lost, but the remaining portions are usually sufficient to perform the necessary physiologic functions if the patient is properly educated in the selection of food.

SURGICAL TREATMENT OF ACUTE PANCREATITIS

In mild cases of acute pancreatitis surgical treatment is not indicated. If the local irritation is removed by making gastric lavage and placing the patient on exclusively rectal alimentation so that nothing passes through the duodenum for a time the obstruction to drainage through the common duct will soon subside because of the disappearance of the local edema and then the conditions will be favorable for recovery from acute pancreatitis.

The correctness of this view must be plain to every one who has operated on a large number of patients suffering from acute gall-stone impaction in the common and cystic ducts at various periods during these attacks. If an operation is performed during the attack the simple drainage of the gall-bladder has always, in my experience, sufficed to relieve the condition except in cases in which there existed at the same time a severe acute cholangeitis in which there has been a mortality of about 30 per cent. A moderate degree of cholangeitis will subside even if there is marked acute pancreatitis, provided the operation itself does not increase the infection.

It should be as simple as possible and no rough or unnecessary handling of the inflamed tissues should be employed.

Even in violent acute cases of pancreatitis a proportion of patients will recover if the abdomen is quickly opened and simple drainage is introduced. Glass tubes covered with gauze, split rubber tubes or cigarette drains may be employed. The number of recoveries depends on the severity of the attack and the promptness with which drainage is supplied. Robson has had nearly 40 per cent. of recoveries. Patients in whom the extravasation of pancreatic juice has caused fat necrosis are least likely to recover. I have seen several of these patients that have recovered without and one with operation and Mayo[18] reports similar results.

Unless jaundice is present it is best to limit the operation to the location and drainage of circumscribed areas of infection or necrosis of the pancreas, to the control of hemorrhage by means of fine catgut sutures and the free drainage of the entire area. This can best be done through a median or a high right rectus incision. It is important to go over the gland carefully, but it is quite as important not to traumatize the tissues unnecessarily. These patients have but a slight margin of possibility to recover and this can easily be lost by unnecessary traumatism or prolonged exposure.

If jaundice is present simple drainage of the gall-bladder with removal of loose gall-stones is indicated, but it is best not to interfere with stones impacted in the ducts. I have lost two patients needlessly before appreciating the folly of doing too much in these cases.

In a general way the following conclusions seem proper:

1. A clinical diagnosis of chronic pancreatitis is usually possible before operation.
2. This condition is practically always a complication of gall-bladder or gall-duct disease, except when following metastic infection.
3. It is usually curable by relieving the pathologic condition of the gall-bladder and ducts.
4. An operative diagnosis of acute pancreatitis can often be made.
5. Early operation greatly improves the prognosis.
6. It is important to reduce to a minimum the trauma in these cases.
7. The important factor in the treatment consists in the establishment of free drainage.

16. Fitz: Middleton, Goldsmith Lecture, 1889.
17. Elliott: International Text-Book of Surgery, p. 468.

Importance of Tuberculides for Diagnosis of Tuberculosis in Infants.—J. S. Leopole found typical papulo-squamous tuberculides in 40 per cent. of 30 cases of tuberculosis in children less than a year old. In 5 of the cases they were the only sign of the disease and were thus a premonitory symptom of tuberculosis; in 2 cases they were the only means by which the tuberculosis was differentiated from syphilis. The arms, the lower part of the back and the back of the legs are the most frequent seat of the lesions; in only a few cases was there more than one. Such lesions are generally overlooked. He never found these typical lesions on children free from tuberculosis, and the tuberculin reaction or the later course of the disease confirmed their tuberculous nature. His article issues from Finkelstein's service at Berlin, and is published in the *Zeitschrift f. ärztliche Fortbildung*, Feb. 15, 1910.

NEWER METHODS OF DEMONSTRATING THE TREPONEMA PALLIDUM WITH ESPECIAL REFERENCE TO THE INDIA-INK METHOD*

FRASER B. GURD, B.A., M.D.
NEW ORLEANS

Since Schaudinn demonstrated the presence in syphilitic lesions of a spirillum which he called *Spirochæta pallida*, afterward changing the name to *Treponema pallidum* because the name *Spirochæta pallida* had already been given to another organism, numerous observers have attempted to utilize various methods in the hope of rendering the demonstration of the organisms more easy. Schaudinn made use of Giemsa's azur eosin polychrome mixture by which the organism is demonstrated as a pale slightly reddish-blue spiral. The various modifications of the Jenner or Romanowski stain have shown themselves of value, especially those of Leishman and Wright. The shortening, too, of the time necessary for the staining by Giemsa's method have increased the usefulness of this procedure although, perhaps, a less satisfactory stain results than when the original stain is used.

The identification of the organism, however, by all of these methods is far from easy and decidedly tiring to the eyes. Levaditi's method of demonstrating the organisms by the deposition of silver has proved itself invaluable, especially for the demonstration of the treponema in the tissues. Levaditi's method is, however, lengthy and not well adapted to general use by the practitioner of medicine.

The perfecting of the "dark-field" condenser has been a great boon to those of necessity examining numbers of specimens for diagnostic purposes. But what will probably prove to be the most valuable procedure to the practitioner at large on account of its simplicity, the cheapness of the materials used and the comparative ease of finding the organisms in the microscopic field, is that known as the "India-ink method."

I shall refer first to the "India-ink method" and later speak of the special advantage of the dark-field illumination in recognizing the differential characteristics of the spirochete. In 1909 Burri in his monograph drew attention to the fact that bacteria were not stained by India ink and that as a result the presence of micro-organisms in a thin layer of ink could be recognized by the presence of clear areas in a dark field. He advocated especially the addition of ink to growing cultures of organisms in order to watch cell division. Hech and Wilenko[1] in July, 1909, published the observation that the *Treponema pallidum* along with other micro-organisms, rendered itself easy of identification by this method.

The technic of the method is simplicity itself. As in procuring material for staining by any method the superficial necrotic layer, if it be an ulcerating surface, or the superficial epithelium, if the lesion be covered by epidermis, is scraped off and the serum which exudes is removed by means of a curette or scalpel. The fluid thus obtained is placed on a slide and an equal quantity of ink added. The ordinary commercial India inks may be used, Günther's being particularly good, although the results with Higgins' waterproof ink are good enough. The serum and the ink are then rapidly and thoroughly mixed and smeared over the slide so that a pale brown color results. The material dries in a minute or slightly more and is immediately ready for examination on placing the oil for immersion directly on the ink smear.

The picture produced will show the red blood-cells as large clear circular areas in a brownish-black field, the bacteria and débris present appearing as white rods and dots and spirochetes, if present, as clear white spirals. Hecht describes the appearance as being similar to that produced by dropping pieces of glass rods into a mixture of melted dark-colored agar in a Petri dish and holding it up to the light when cold. This description though somewhat clumsy, is sufficiently exact to give an idea of the general impression.

It is particularly important in using this method that in so far as possible serum alone be used and that a minimal amount of mucous material or fibrin be mixed with the ink. The presence of mucus results in its taking up a large amount of the color material of the ink, with the result that a smear of the requisite color and thickness cannot be made. If too much serum is used the albuminous material appears to precipitate the stain from the fluid and a finely granular appearance is seen microscopically, which is practically worthless for diagnostic purposes. Again, if too much ink is used the surface of the smear is increased in size to such an extent that the task of examining it thoroughly is greatly lengthened.

Regarding the reliability of this method perhaps it is not yet possible to speak definitely. It would appear, however, from my own results that here we have a method by which a definite diagnosis of syphilis is made possible in as great a number of cases as by any other microscopic method. A series of cases have been examined making use of this method and using Giemsa's and Wright's stains as controls. In every case in which either of the staining methods revealed the organisms the India-ink has demonstrated these in as large numbers and with a smaller expenditure of labor and time. True, the characteristic staining reaction of Giemsa's method is not present, but this loss is more than compensated for by the distinctness with which the morphology may be studied.

Practically only two or, perhaps, four organisms are apparently noteworthy in the differential diagnosis of the *Treponema pallidum* and in lesions elsewhere than the mouth and intestines only the *Spirochæta refringens* comes into thought. This organism, generally easy of differential diagnosis, by all methods, is particularly so when demonstrated by the ink method with its coarse body and broad curves.

In the mouth the *Spirochæta dentium*, the *Spirochæta buccalis* and the spirillum of Vincent may all be found. The presence of the latter along with the fusiform bacillus, together with the larger size and smaller number of its curves, renders confusion almost impossible. The *Spirochæta buccalis* too, with its morphology similar to that of the *S. refringens* is easily distinguished from the treponema with its short deep curve. The *Spirochæta dentium* is more liable to lead to error in diagnosis; its body is finer than the other forms mentioned and the curves shorter and placed more closely together. The body of this organism is, however, always definitely thicker than the treponema and never does one find more than five turns to the diameter of a red blood cell, nor are the extremities drawn out in the manner of the organism of syphilis.

Coles[2] notes a useful point in the diagnosis of the treponema, namely, that if the number of turns of the

* From the Pathologic Laboratory of Tulane University.

1. Hech and Wilenko: Wien. klin. Wchnschr., July 1, 1909, No. 26.

2. Coles: Brit. Med. Jour., May 8, 1909.

spiral of the syphilitic spirochete in the length of the diameter of a red blood cell be counted, these will be found to be from six to seven. The distance from the top of one spiral to the next is from 1 to 1.2 microns. The red blood cells measure about 7.5 in diameter so that on the average six or seven turns will be equal that of a red blood cell. The treponema varies in length from 6 to 15 microns or even more, and consequently contains from six to fourteen and sometimes twenty or more turns of the spiral. This measurement of the length of the spiral is usually possible, and is of the greatest value in identifying the treponema. The *S. dentium* rarely has more than four or occasionally five turns; the other organisms mentioned above from two to three, possibly five but never more.

For the absolute diagnosis, as mentioned above, the consideration of the motion of the live organism by means of the dark field is very important. Whereas the saprophytic spirilla, in addition to their different morphology, are actively motile and move across the microscopic field more or less readily, the treponema seems to lie lazily in the material in which it is suspended, swaying its body one way and then another, having at the same time a rotary motion, moving from time to time, too, a little backward or a little forward, but never changing its relative position very markedly.

We have then in the India-ink method a procedure of almost ridiculous simplicity which, if by the prolonged observations of competent workers, it is proved to be reliable, will be a means of putting the microscopic diagnosis of syphilis within the reach of all who have even a moderate knowledge of the use of the microscope.

PLUGGING NOSTRILS WITH COTTON AS PROTECTION AGAINST DISEASES CONTAGIOUS BY INHALATION

HENRY ALBERT, M.D.
IOWA CITY, IOWA

There is little doubt that the causative agents of most infectious diseases and especially those that are highly contagious enter the system by being inhaled, and invade the tissues primarily through the mucous membrane of the nose or other portions of the respiratory tract. Recent investigations have also proved that a person who has never had a certain disease may be a "carrier" of the germs of that disease otherwise than by the long recognized modes of carrying the bacteria about on hands, clothing, etc. For instance, a person exposed to diptheria may have his nasal cavity or throat infested with diphtheria bacilli even though not affected by the disease and such person may transmit the germs to another in whom the disease may develop.

The peculiar distribution of cases of epidemic cerebro-spinal meningitis and poliomyelitis, viz., the development of cases in different portions of a locality in individuals who have been in no way associated with each other, while at the same time persons directly exposed often remain unaffected—suggests, first that only a relatively small number of persons are susceptible to infection with these diseases, and, second, that the infective agent is carried about in the nasal cavity of individuals who are themselves not susceptible to the disease but in whom the germs may remain and multiply for a long time. Such indeed has been proved by bacteriologic examinations to be the case with the meningococcus. Association with a susceptible individual may cause the transmission of the disease. Inasmuch as drying readily destroys meningococci as well as other bacteria, or at least attentuates their virulence, it is much more probable that cases developing at long intervals of time may be better explained by coming from the nasal or buccal discharges of a carrier than from the clothing of a person exposed.

It would seem therefore that we should make a special effort to prevent pathogenic germs from being inhaled, both to protect ourselves from such germs and to prevent our becoming a "carrier." The efficacy of cotton as a bacterial filter is well known. That it is quite as efficacious for the nasal cavity as for a test-tube may be demonstrated by simple experiments. There would seem little reason why physicians and those nursing patients who have diseases which are contagious by inhalation should not protect themselves and others by placing a piece of cotton in their nostrils while in attendance on such patients.

221 South Lucas Street.

EXPERIMENTAL POLIOMYELITIS IN MONKEYS

SEVENTH NOTE: ACTIVE IMMUNIZATION AND PASSIVE SERUM PROTECTION*

SIMON FLEXNER, M.D., AND PAUL A. LEWIS, M.D.
NEW YORK

The experimental investigations of epidemic poliomyelitis, carried out during the past several months, have added a large number of important facts to the knowledge of this disease. These facts relate to the nature of the cause of the disease, the manner of its entrance into and exit from the body, the pathogenesis of the affection, and the existence of an enduring state of resistance to reinfection following an attack of the disease.[1] In the present communication we wish to present briefly certain further results which have been obtained in the course of experiments on active and passive immunization in respect to experimental poliomyelitis in monkeys.

The virus which we are employing in our experiments was derived from Case K,[2] is in its twenty-fifth generation in monkeys, and has attained a high degree of activity. Intracerebral inoculation of even minimal quantities of a filtrate[3] (0.02 to 0.01 c.c.) prepared from the spinal cord of a recently paralyzed animal causes almost invariably the development of paralysis within six to eight days. Recovery almost never takes place. This virus may, therefore, be regarded as of maximal potency.

ACTIVE IMMUNIZATION

With this virus we have endeavored to produce active immunity in monkeys and, in certain instances, successfully. The virus has been injected subcutaneously in gradually increasing doses over a period of several months, after which the immunity has been tested by a full intracerebral injection of the filtrate. An example is given.

Macacus rhesus. Inoculated daily from Jan. 12, 1910, to Jan. 16, 1910, with 0.05 c.c. suspension M.A. virus. Rest of

* From the Laboratories of the Rockefeller Institute for Medical Research, New York.

1. Flexner and Lewis: THE JOURNAL A. M. A., Nov. 13, 1909, liii, 1639; Dec. 4, 1909, liii, 1913; Dec. 18, 1909, liii, 2095; Jan. 1, 1910, liv, 45; April 2, 1910, liv, 1140; Jour. Exper. Med., 1910, xii, 227.
2. Flexner and Lewis: THE JOURNAL A. M. A., 1909, liii, 1913.
3. Flexner and Lewis: THE JOURNAL A. M. A., 1909, liii, 2095

four days. Inoculation from January 20 to January 23 with 0.05 c.c. virus. Rest of four days. Daily inoculation for four days with 0.1 c.c. virus. Rest. Inoculation of successively 0.1 c.c., 0.5 c.c. and 1 c.c. virus. On March 23, 1910, 5 c.c. of suspension of virus given. No visible effect produced by the virus. April 2, 1910, intracerebral injection of 2 c.c. filtrate of K virus. No effect. Animal in perfect health May 9, 1910. Control animals injected with 0.01 c.c. to 0.1 c.c. filtrate became paralyzed in average period.

In the earlier experiments, before the virus had attained maximum activity, a small number of monkeys failed to develop paralysis after intracerebral injections of considerable amounts of unfiltered emulsions of the spinal cord from recently paralyzed animals. When these monkeys were tested subsequently with the more active virus they became paralyzed practically without exception. The unsuccessful inoculation does not appear to have increased markedly the natural resistance to infection. On the other hand, we have met instances in which monkeys have failed to react to the glycerinated virus later resisted successfully an intracerebral injection of as much as 2 c.c. of a filtrate of maximum potency. Glycerin may, therefore, modify, after some time, the virus and render it more suitable for purposes of immunization.

PASSIVE SERUM PROTECTION

We observed early that monkeys that recovered from the paralysis, either perfectly or with residues, were insusceptible to reinoculation with the virus; in other words, they had developed an artificial immunity. The question, therefore, arose as to whether the immunity principles existed in the blood in sufficient concentration to be capable, first, of neutralizing the virus *in vitro* and next, in the body of infected monkeys. The experiments to determine the former were made with the maximal K virus of which 2 c.c. of a filtrate were mixed with 2 c.c. of the serum of recovered cases, incubated for one hour at 37° C. and then placed in the refrigerator over night. This mixture failed to cause paralysis in *Macacus rhesus* when injected intracerebrally, although the control animals succumbed in the usual period. Normal monkey serum has no such restraining action.[4]

The successful outcome of this experiment suggested that the blood of persons who had recovered from poliomyelitis contained similar immunity principles.[5] The blood serum obtained from children through the kindness of Dr. Terriberry, was used for experiments. The monkeys having received the mixtures of filtrate and serum are still well, while the control animals have succumbed. Since, however, the incubation period, in rare cases, exceeds thirty days, the conclusion that the paralysis is prevented and not merely delayed, cannot be reached until the expiration of that period.

In contradistinction to these successful experiments is the failure to produce a neutralizing serum in the horse by repeated injections of filtrate. The horse serum, when mixed with the virulent filtrate and incubated as stated above, displayed no power whatever to inhibit the action of the virus. The monkeys injected with the mixture of horse serum and virus became paralyzed in the same average period as the controls.

The second series of experiments were conducted along two lines. One set of monkeys received intracerebral injections of the filtrate in doses varying from 0.1 to 0.01 c.c. in the afternoon. The next morning the serums from the monkeys and from the horse were injected into the subdural space and these injections were repeated daily or at somewhat longer intervals. We chose this mode of procedure for several reasons: First, we desired to ascertain whether the virus, once it was established in the body, could be restrained, because, if this proved possible, the outlook for some measure of control of the spontaneous disease in human beings might become hopeful. Second, we had already determined[6] that the virus, however introduced into the body, first establishes itself in the cerebrospinal meninges where it propagates and induces cellular changes and reactions to which the paralysis, etc., are indirectly due. It seemed rational, therefore, to endeavor to bring the neutralizing serum into direct relation with the virus by intraspinal injection. Next, it has already been determined in the case of epidemic cerebrospinal meningitis[7] that the serum quickly escapes from the subdural space into the blood, and hence, that if it were desired to maintain intimate contact of a serum with the meninges, daily injections must be made. It was believed furthermore that multiplication of the injected virus had already started in the interval between inoculation and injection of the serum and the serum probably would not suffice to destroy immediately all the organisms there present. Finally, we do not possess at present any definite knowledge concerning the injurious action of the virus on other important organs than the nervous system. If such action does occur and can be prevented by an immune serum, the results would probably be equally good whether the serum gained entrance into the general blood from the meninges or subcutaneous tissue. In the other set of monkeys the intranasal mode of inoculation of the virus was employed and the serum treatment instituted immediately afterward.

Before giving, in brief, the results of these experiments, which must still be regarded as of preliminary character, it should be stated that the immune serum obtained from the monkeys, which had recovered from paralysis, had in every instance been subjected to reinforcement by subsequent inoculations, often of large doses, of active virus. Whether any reinforcement is actually accomplished is still an undecided question; but judging from analogy, it should have taken place. The point is under examination.

The indications of our experiments along these lines are (1) that if the quantity of the virus injected into the brain eighteen to twenty-four hours before the serum treatment is begun is not in excess of a given dose, the action of the virus can be prevented; (2) that the infection of the meninges from the nasal mucosa can also be prevented by the serum injections; (3) that normal monkey serum has no such restraining effect; and (4) that the horse serum is entirely without preventive action and tends rather to hasten the onset of paralysis.

April 12, 1910: *Macacus rhesus*. Intracerebral inoculation of 0.01 c.c. filtrate virus K. April 13, 1910 to April 22, daily intraspinal injection of 3 c.c. immune serum. April 27, 1910: Injected 3 c.c. immune serum; May 2, 1910, repeated injection. Animal remains perfectly well.

In the case of the intranasal inoculations, the injections of serum were made immediately after infection was made and at three-day intervals for three injections. The control and the animal treated with horse serum succumbed and the animal treated with immune serum survived.

4. Similar observations have been made by Römer and Joseph (München. med. Wchnschr., 1910, lvii, 568); and Levaditi and Landsteiner (Compt. rend. Soc. de biol., 1910, lxviii, 311), have reported such a neutralization experiment.
5. Levaditi and Netter: Presse méd., 1910, xviii, 268.
6. Flexner and Lewis: Jour. Exper. Med., 1910, xii, 227.
7. Flexner and Jobling: Jour. Exper. Med., 1908, x, 141.

Experiments are in progress to determine whether the paralysis, after intracerebral inoculation, can be prevented by immune human serum and what the limits of the control of the experimental disease by such sera are. In considering these results and particularly their significance for human pathology, account should be taken of the fact that experimental poliomyelitis in monkeys is a far more severe and fatal disease than epidemic poliomyelitis in human beings.

In view of the fact that the virus of poliomyelitis can enter the nervous system through the abraded mucous membrane of the nose, we have tested the effects on the virus of hydrogen peroxid and some other disinfecting agents. The virus is quickly destroyed by a dilution of perhydrol containing 1 per cent. of hydrogen peroxid.

105 East Sixty-second Street.

RAPID BLOODLESS CIRCUMCISION

OF MALE AND FEMALE AND ITS TECHNIC

S. L. KISTLER, M.D.
LOS ANGELES, CAL.

Circumcision, one of our most common minor operations, is bunglingly done in many instances, notwithstanding its simplicity.

This operation, though an old one, is still interesting and means have long been sought whereby it could be more easily and quickly performed and be attended with less hemorrhage, and consequently meet with less objection on the part of parent and patient.

Many a surgeon has lost his best clients, and likewise many a good prospect has gone glimmering because of the unfortunate outcome of this little operation.

The necessity for circumcision is abundantly evidenced, and although it may be needless to state any reasons for doing this operation, nevertheless I will mention a few:

1. Reduced tendency to convulsions in infancy arising from irritable nervous system.
2. Habit of masturbation not so likely to be formed.
3. Lessened irritability of child or adult.
4. Amorosity reduced.
5. A hygienic condition promoted.
6. Venereal diseases not so readily contracted, and consequently:
7. Fewer pelvic diseases in women.
8. For impotency in old men, as has been advocated.

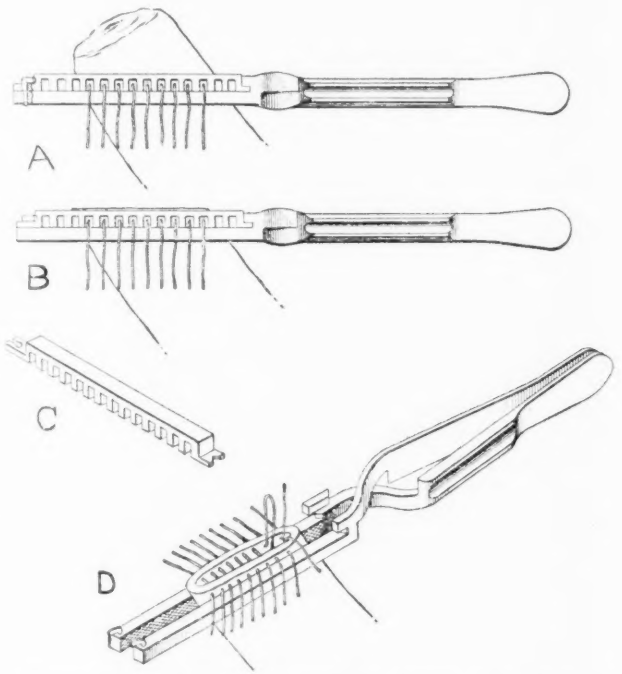
The ease with which this operation can be done by use of the instrument here described is so marked that a person could circumcize himself, provided he did not become faint-hearted. Only one-quarter of time required for other methods is needed. This operation is practically bloodless, as all ligatures are uniformly placed and tied before the clamp is removed.

The illustration shows clamp on and ligatures inserted (A); then the removal of the foreskin (B), and next, the removal of the upper sections of the blades (C), and two ligatures pulled up, one of which has been cut and is ready to be tied (D). The instrument has twelve slots or ports instead of fourteen as is shown in the illustration.

METHOD OF PROCEDURE

1. Use local or general anesthetic as deemed best.
2. Adjust clamp.
3. Insert sutures.
4. Excise foreskin with scissors or knife.
5. Remove upper section of each blade by releasing at distal extremity and lifting off.
6. Insert a ligature in anterior portion of foreskin in addition to those already inserted, if desired; also insert one posteriorly.
7. Pull each suture up singly, cut loop in center, tie each side as indicated, and having tied all ligatures, remove clamp and apply dressing.

If deemed expedient, spear the mucous membrane and draw out as desired before applying the clamp. If the foreskin adheres to glans, split on dorsal aspect to corona, break down adhesions, apply clamp and operate one side at a time, and, having no loops to pull, only skin and mucosa to unite, you can operate very rapidly. A young child may not always require stitches; however, I think it best to insert several, but each operator will use his own judgment in the matter. A better result will be obtained when the mucous membrane is cut long and the skin comparatively short, as is the case when this instrument is employed. There is practically



Modified phimosis clamp, showing the manner of using it. A, clamp applied, sutures placed; B, foreskin removed; C, removable section of blade; D, sutures ready to be tied.

no blood, no anxiety, no misgivings as to results, and the work is done quickly and easily. Frequently too much mucous membrane is removed and too little skin. Leave more mucous membrane and less skin and then an ideal result will be obtained.

Many females need circumcision, and the operation is more easily performed than in the male. The clamp is applied singly to such elongated or hypertrophied parts as it is desired to remove, ligatures inserted, part excised, upper part of blades removed, ligatures tied without necessity of pulling up loops, etc., clamp removed and dressing applied.

I have never tried this instrument for protruding pile tumors (of considerable length), but it occurs to me that a beautiful operation could be performed by its use, for the reason that double ligatures could be inserted through the vein posterior to the sacculated portion, and then the set of ligatures used for the vein could be withdrawn from the skin; thus the veins could be tied separately and the skin then closed with the other set of ligatures loosely tied, which would incidentally hold the vein in close contact with the skin.

Other phimosis clamps have been devised, such as those of Tortat, Levis and Skillern, but the advantage of my clamp and its distinctive feature is the notched, removable portion of the blades. This feature gives a smooth surface along which to remove the redundant tissue, leaving just the margin required to hold the stitches securely. The removal of these portions of the blades leaves the sutures free for rapid tying while the remainder of the clamp is still in place.

3146 Vermont Avenue.

HEMORRHAGE OF THE SPINAL CORD

H. W. RICE, M.D.
COLUMBIA, S. C.

Because of the rather unusual character of the injury I am constrained to report this case.

History of Injury.—In a scuffle between two women on a porch one was thrown, striking the back of her neck against the baluster rail. The rail gave way and she fell some four feet to the ground on her head. She was picked up helpless and carried to her room. A couple of hours afterward I saw her.

Examination.—Total paralysis existed below a line extending from the top of the shoulders across the chest about two inches below the clavicle. She could move her head from side to side, forward and backward movement being somewhat impaired. She could elevate the shoulders and clavicle only slightly. There was slight tenderness on pressure over the region of the fourth cervical vertebra. Otherwise the patient had no pain anywhere. No fracture or dislocation of the vertebræ could be made out, and the only surface injury was a bruise over the right frontal region. The tongue could be protruded straight. The face muscles acted symmetrically and there was no impairment of speech. The mind remained perfectly clear. The pupils reacted normally. There was no disturbance of any of the special sensations. The superficial and deep reflexes were lost in all parts of the paralyzed portion of the body. Voluntary control of the rectum and bladder was lost. The bladder emptied itself intermittently, perhaps from overdistention. The bowels remained constipated and did not respond to the strongest cathartics. Enemas served only to expel partially the gas of an extreme and persistent tympanitis. The pulse did not rise above 80, and the temperature remained under 100 F. throughout. Respiration was somewhat embarrassed at first, becoming more frequent and labored towards the last.

Diagnosis.—The lesion was decided to be hemorrhage of the cord, the approximate seat being determined by applying the principles of spinal localization as follows: The zone marking the paralyzed from the active segments of the body as indicated above was a line across the chest below the clavicle anteriorly and just above the spines of the scapulæ posteriorly. Motion and sensation existed everywhere above this line, and was lost everywhere below it. The groups of muscles represented by the sternomastoid anteriorly and the trapezius posteriorly were active as shown by the ability to move the head and neck in all directions and to slightly elevate the clavicle and shoulders. These muscles are innervated by the cervical plexus or four upper cervical nerves. The group of muscles next below represented by the deltoid, the biceps, and triceps were paralyzed as shown by the inability to move the arms or to completely raise the shoulders. These latter muscles receive their nerve-supply from the brachial plexus or four lower cervical segments of the cord, and therefore the hemorrhage must have extended as high as the zone between the cervical and brachial plexuses or as high as the fifth cervical nerve root. The spinal accessory nerve which in the main supplies the sternomastoid and trapezius muscles receives branches from the cervical nerves as low down as the third segment. Hence it was inferred that the lesion was somewhere below the third cervical nerve root. In short, the injury was probably between the third and sixth cervical nerve-roots. That the substance of the cord and not the membranes only was the seat of the hemorrhage was concluded from the following points: In hemorrhage of the membranes there would have been decided pain with a more gradual onset of paralysis; in meningeal hemorrhage we would expect to find the paralysis confined to one or more groups of muscles or involvement of one group after another until there was a complete paraplegia; in meningeal hemorrhage there is more apt to be a gradual improvement in the paralysis with possibly complete recovery; and in hemorrhage of the membranes inflammation is more likely to follow terminal meningitis.

Autopsy.—The patient died on the fourth day and the autopsy confirmed the diagnosis revealing the following conditions: There was a fracture without displacement of the tip of the spinous process of the fourth cervical vertebra, also a linear fracture of the left lamina of the fifth vertebra. A considerable amount of dark fluid blood exuded from the cervical tissues and a slight amount of extravasation was found in the dura around the fourth and fifth segments of the cord. A small amount of blood exuded from the subdural space. The central canal opposite the fourth, fifth and sixth segments contained minute blood-clots and macerated cord substance. There was a widespread ecchymosis of almost the entire cross-section of the cord at the level of these segments. The damaged section was limited between the fourth and sixth cervical nerve roots.

The points in the case of special interest were the following:

1. The differential diagnosis between injury to the membranes and injury to the cord substance is important. In a purely meningeal hemorrhage the blood clot might be removed by a laminectomy, but if the cord substance is seriously involved surgical interference would be futile.

2. The deep reflexes below the seat of the lesion were lost while the automatic centers for the rectum and bladder remained intact; that voluntary control of the bladder and rectum was lost showing that the motor pathway from the brain to these organs was interrupted by the cervical injury.

3. The cause of death was probably paralysis of the phrenic nerve and was not immediate because not all the nerve origin was first impaired.

1316 Washington Street.

A CASE OF PELLAGRA IN ILLINOIS

J. H. BACON, M.D.
PEORIA, ILL.

As spring is the time of the year in which pellagra is most prevalent, and as all cases previously reported from Illinois have been asylum cases, the report of a case of that disease in private practice should prove of interest.

History.—I was called to see a woman, aged 37, who complained that she had been burned while taking a vaginal douche on March 30, 1910. She was a middle-aged woman, with a peculiar, dejected, staring expression, confined to her bed. Her family history was negative. She had been healthy as a child; was married; had five healthy children; had lived in Peoria last 20 years; had been constipated in childhood; always a light eater, rarely using meats. Her dietary was that of the ordinary laboring family; corn-meal mush served once a week; other corn products used frequently. She had suffered from a puerperal infection after the birth of her first child and had been in poor health since. In February, 1903, her last child lost twenty pounds in last five years. During 1905 she had a paralysis, of short duration, of the left arm and side of the face.

Present Illness.—In March, 1903, a rash appeared on the backs of both hands that persisted until the following winter. It came on as large blebs that became ulcerated at the base,

Her general health declined and menstruation disappeared entirely. Each following spring, usually in March, the eruption has reappeared, but dryer, more widespread and of a brownish-black color. These lesions have burned and itched, and sometimes have been quite painful, requiring morphin. During the eruption of 1907 a severe dysentery developed which has since persisted with from three to twelve stools a day. The eruption of 1909 covered forearms, hands, neck, feet and areas of the chest. Blebs under the eyes were lanced. The skin resembled elephant skin and frightened the children at times. The present attack began apparently after a vaginal douche when she thought she was scalded. Her mouth was sore, and the saliva hot and burning. Micturition was frequent and scalding. There were four watery stools daily. Her appetite was poor and she lost twenty pounds in last five years. During 1905 she had a paralysis, of short duration, of the left arm and side of the face.

Present Condition.—A small, emaciated woman, confined to bed, with a facial expression of despair; eyes prominent and reddened from weeping; complains of headache and loss of sleep; words are spoken slowly—in a drawl; lips large, protruding and cyanotic. The mucous membrane of the mouth is eroded in patches; the tongue is thick and the papillæ prominent; gums swollen, boggy, with pus exuding around the teeth; profuse watery discharge from nose and mouth; occasional cough; mucous expectoration; breath has foul odor. On sitting she becomes flushed and exhausted. Her feet drag and she settles to the floor on attempting to walk. There is no ataxia. The patellar reflexes are exaggerated. Babinski present. Her mental condition is clouded, memory poor and she is quite despondent. She has a chronic tuberculosis. The abdomen is tender, especially in the epigastrium. The external genitalia are excoriated; the skin is a brownish color, dry and scaly, with tendency to crack. There is no weeping. This condition is especially marked on both forearms and has well-marked outlines at wrists on flexor surface. The skin on the areas affected last year is thin and parchment-like. Urine is negative; stool is liquid, of a brown color, and foul odor. Numerous motile spirilla found. No ameba. Blood: Hemoglobin, 80 per cent.; reds, 4,000,000; leucocytes, 10,000; differential negative; no malarial parasites found.

Diagnosis.—The diagnosis seems clear, with recurring skin lesions for seven springs, improving in cold weather, the parchment-like skin, the dysentery and indigestion, the gastro-enteritis, the stomatitis, the thickened tongue, the relatively high hemoglobin, the impaired mental condition and the malnutrition.

Treatment.—The skin condition has improved under the use of an ointment containing boric acid and salicylic acid. The general condition has improved slightly with improved diet and the administration of iron, arsenic and strychnin. Headache and pain have required morphin.

333 Woolner Building.

HOOKWORM DISEASE IN KANSAS

K. B. FORD, M.D.
WICHITA, KAN.

My purpose is to call the attention of the profession in the northern states to the importance of being on the lookout for cases of hookworm disease. It is known that its natural geographical distribution is in the South and its practically complete absence in the North might cause it to be overlooked or diagnosed as one of the numerous other things, such as neurasthenia, which it so much resembles.

While traveling in the southern states in September, 1909, through the courtesy of physicians in several places and at one medical meeting I had the privilege of seeing and examining several cases of hookworm disease and the adult worms, and of witnessing a microscopic demonstration of the ova. The knowledge of this disease thus acquired suggested the correct diagnosis in the following case:

History.—In April, 1910, a married woman, aged 32, consulted me, complaining of a gradual decline in strength, lack of energy and ambition and gave a list of symptoms that sounded like a treatise on the symptomatology of hookworm disease. The decline had been gradual, following a trip through the southern states and extending over a period of a couple of months. The patient did not feel ill but was tired out. She said that she had lost little, if any, weight.

Examination and Treatment.—The patient appeared to be well nourished, but had the sallow skin, the milky blue eye, and the anxious, tired, worn look of the hookworm victim. There was a patch of dermatitis on the anterior and external surfaces of the right leg, which the patient said had been there for two months. After a cathartic, and a fast, the patient was given thymol, followed by salines; the stools were examined with the assistance of Dr. Phares and the adult worms and ova were found in large numbers. The patch of dermatitis on the leg began to clear up after the first treatment. The depletion caused by the salines revealed the fact that the plump appearance of the patient was due to a general edema, which concealed a really marked emaciation.

Since having this experience I recall a patient, a young woman from Tennessee, whom I saw in August, 1909. She complained of indefinite pains, nervous symptoms, etc., no doubt due to the same cause, which was unsuspected at that time. Though these cases probably are rare in the North, it is evident from the above that the infection may exist in individuals coming from the South, or may be acquired by persons visiting that section even for a short time, and the possibility should be kept in mind.

1223 South Lawrence Avenue.

VARICELLA AS A CAUSE OF NEPHRITIS

REPORT OF TWO CASES

E. J. G. BEARDSLEY, M.D.
Chief of Outpatient Medical Department, Jefferson Medical College
PHILADELPHIA

The rarity of published accounts of nephritis complicating or following an attack of varicella indicates either that the associated conditions are infrequently encountered or that such cases are not reported by those observing them. It is well known that varicella is, in the majority of instances, a mild disease and free from serious dangers but occasionally the disease may be unusually severe or a complication or complications may lead to unfortunate results. When such complications are encountered it seems well to publish the account of the cases that others may profit.

Among the rare complications of varicella is nephritis. Henoch[1] first called the attention of the profession to this complication of the disease and published the accounts of four cases studied by him. Von Jurgensen,[2] Brunner,[3] Rille,[4] Dillon Brown,[5] Hogyes,[6] Janssen[7] and Oppenheim[8] have reported similar cases. I have had the opportunity of studying two cases which exhibited well-marked nephritis during and after an attack of varicella and in which there seemed good reasons for believing that the kidney affection was the result of the primary exanthematous disease. The following case has been previously quoted.[9]

1. Henoch: Berl. klin. Wchnschr., Jan. 14, 1884, No. 2.
2. Von Jurgensen: Quoted in Nothnagel's Specielle Pathologie und Therapie, 1896, iv, 294.
3. Brunner: Quoted by Brown in Twentieth Century Practice, xiv, 197.
4. Rille: Deutsch. med. Wchnschr., 1891, xvii, 301.
5. Brown, Dillon: Twentieth Century Practice, xiv, 197.
6. Hogyes: Jahrb. f. Kinderh., new series, xxiii, 337.
7. Janssen: Berl. klin. Wchnschr., 1887, xxiv.
8. Oppenheim: Berl. klin. Wchnschr., Dec. 26, 1887.
9. Hare and Beardsley: Typhoid Fever and the Exanthemata, Edition 2, 381.

CASE 1.—*History.*—The patient was an Italian girl, aged 6. The parents stated that, with the exception of a slight attack of bronchitis when 2 years of age, their daughter had never been sick. The illness began two days before the patient was seen by me. The child seemed "feverish" and complained of headache. During the evening of the day the symptoms appeared the mother discovered the skin eruption, which she described as being "warts with water in them." Two days following the appearance of the eruption the family noticed that the patient "was not right in her head" and sent to the dispensary for a physician.

Examination.—There were forty or fifty varicellous lesions scattered well over the chest, abdomen and back, with a few on the extremities. The temperature was 103.2 F. and the pulse 150. The lungs were resonant on percussion and the breath-sounds, although exaggerated, revealed no further abnormality. The patient was slightly delirious, the breath foul and the tongue thickly coated. The mother stated, on inquiry, that the child had not urinated for eighteen hours and that at the time the last urine was passed it resembled blood. The patient was placed in a hot pack, which soon relieved the delirium, and was later thoroughly purged. The first urine passed was not collected, but a specimen obtained a few hours later was very highly colored, and contained 1.2 gm. of albumin (Esbach's test) and large numbers of coarsely granular casts, many finely granular, a few hyaline casts and a considerable number of red blood cells; specific gravity 1026.

Course of Disease.—The day following the first urine examination the child was still slightly delirious and the urinary changes were much the same as before but a larger amount of urine was passed (10 ounces were collected). The casts remained in evidence for six days, after which time they gradually disappeared. The albumin persisted in the urine for two weeks, and then disappeared. Following this illness the child's urine was examined once a week because of her extreme pallor, but no abnormality was discovered for some time. Some six weeks after the initial illness the child was brought to the dispensary to be treated for "stomach trouble." The mother stated that since the illness there was evidence of a "weak stomach" while previously the child could eat any food with impunity. The pallor associated with the history of nausea and occasional attacks in which the patient vomited prompted me to examine her urine again. At this time there was found 0.5 gm. of albumin to the liter with many finely granular and few hyaline casts. This case was studied about one year ago and during the past year I have seen the child four or five times at intervals of several months for what the mother terms "stomach trouble." At each examination of the urine the nephritic condition has been evident. As long as the child is bathed and the diet supervised she remains in fairly good health, but if the vigilance of the inspecting nurse is relaxed and the family becomes careless, the child soon develops toxemic symptoms.

CASE 2.—*History.*—The patient was a colored boy, aged 5. The attack of varicella differed from that in the first case mentioned, in being much more severe, many of the lesions showing petechial hemorrhages. This child was taken suddenly ill with a slight convulsion and later vomited freely.

Examinations.—When the child was seen the skin was well spotted with vesicles. The temperature was 103 and the pulse 140. The lungs were clear but the throat was much inflamed. Two days after the rash first appeared many of the vesicles showed hemorrhagic tendencies and the child appeared stuporous. After considerable difficulty a specimen of urine was obtained but not until several days after the child had greatly improved under eliminative treatment. The urine was highly albuminous and contained granular, hyalo-granular and hyaline casts in large numbers. Two weeks later there was no albumin present in the urine but a few hyaline casts were found.

Course of Disease.—The urine was examined again six weeks after the initial illness and no abnormality found, but three months later the child developed a frank lobar pneumonia, became very toxemic and an examination of the urine presented the picture of an acute toxic nephritis. Three weeks after convalescence from the pneumonia, casts and albumin were still present in the urine.

From these cases and from the cases quoted from the literature it appears that the kidney structure may be seriously affected by varicella and the necessity of frequent urine examinations during and following even mild attacks of the disease is realized.

2030 Chestnut Street.

A DEATH UNDER ANESTHESIA DUE TO STATUS LYMPHATICUS

ERNEST B. BRADLEY, M.D.
LEXINGTON, KY.

Patient.—A boy, aged 7, with the following history: Whooping-cough with good recovery at the age of 2 years. No other diseases of childhood. Operation for enlarged tonsils and adenoids, by Dr. J. A. Stucky, three months previously. At this time patient took the anesthetic fairly well except for a slight accumulation of mucus in the throat which, however, was not particularly troublesome. There was no history of any kind of asthma, any difficulty there had been in breathing being entirely relieved by the removal of the adenoids.

Present Illness.—For the past three years the glands on the left side of the neck had been noticeably enlarged. They had increased in size rather markedly in the last few months, although their growth had not been uniform from the beginning. Dr. S. B. Marks, who had charge of the case, said that six months previously these glands seemed to become smaller, but on the whole they had grown, until at the time of examination they showed as a marked swelling from the mastoid process to the border of the first rib. At times there had been some temperature disturbance but as this usually disappeared promptly under a dose of calomel, it was supposed that it was due to intestinal ailments. The physical examination showed no other glands palpable; the chest and abdomen were apparently normal. The probable diagnosis of tuberculous glands was made by Dr. Marks, and this was concurred in by Dr. A. H. Barkley, to whom the case was referred for operation. On March 15 the author was asked by Dr. Barkley to administer the anesthetic at the operation for the removal of these glands.

Operation and Anesthesia.—As the child was crying and fighting, chloroform was used to begin: it took only a few whiffs to quiet him. Ether was then substituted and was used exclusively from this time on. Dr. Barkley removed the enlarged glands easily and practically without the loss of a teaspoonful of blood. The patient behaved well under the anesthetic, the only untoward symptom being that too much mucus would accumulate in the throat. This was never excessive, however, and on withdrawal of the anesthetic it disappeared. The pupils were at no time dilated and while never down to the pin-point, often seen, were always well contracted. After the anesthesia had continued for an hour and a quarter, when the surgeon had almost finished the operation, the mucus in the throat becoming somewhat troublesome, the patient was allowed to come out so that he might swallow. The cone was removed for about three minutes, when the winking reflex becoming very active, a few drops of ether were poured on the cone and this placed over his face. He took two or three gasps without getting any air into his lungs. The surgeon was informed and artificial respiration immediately resorted to. The sphincter ani was divulsed, the heart massaged by Dr. Marks, who was assisting, the throat cleansed of mucus, and the tongue pulled forward rhythmically. The heart could not be felt to beat and the pupils from being contracted dilated to full size. The patient's color was good and not the least cyanotic, showing that the heart and respiration must have ceased almost simultaneously. The

efforts at artificial respiration were abandoned after fifteen minutes, during which time the patient was not induced to take a single breath.

Permission for complete autopsy could not be obtained but we were allowed to remove the thymus, which was found to occupy its usual position behind the sternum. It showed two lobes with a centrally placed isthmus and measured 5 cm. long by 4 cm. wide by 1 cm. thick. It weighed 9 gm. The fifty or more lymph-nodes taken from the neck had a total weight of 92 gm. They ranged from the size of a small pea to that of a small English walnut. On section they were firm and showed no softening.

Pathologic Report.—Sections of the thymus and of two of the larger lymph-nodes were sent to Dr. Aldred Scott Warthin, of Ann Arbor, who reported as follows: "As far as I can make out from the slide of thymus, it does not show any special change beyond that of a general hyperplasia. The lymph-nodes are extremely hyperplastic, and may be taken as representing the early stages of a lymphatic struma. There is no tuberculosis in the ones sent, and I think that the diagnosis of status lymphaticus is justified by the sections. There is certainly a marked lymphoid hyperplasia. The preservation of the germ centers in the lymph-glands rules out lymphosarcoma, and the condition is more typical of status lymphaticus than of Hodgkin's disease, though I believe that there is no hard and fixed line between some of the cases of Hodgkin's and those showing the clinical appearance of lymphatic struma."

146 Market Street.

RARE FETAL MONSTROSITY

ENTIRE ABSENCE OF ABDOMINAL PARIETES; TALIPES CALCANEOVARUS; SPINA BIFIDA

HARRY ARANOW, M.D.

Adjunct Gynecologist, Lebanon Hospital; Assistant Gynecologist, Presbyterian Hospital Dispensary

NEW YORK

While a number of cases of celosoma are reported in medical literature, I could find only one case in which the entire abdominal parietes were wanting.[1]

History.—Family history was negative: the mother was a primipara. I was called at about 2 a. m., Dec. 2, 1908. The patient had been in actual labor for about six hours and had passed a clot about five hours previously. Pains were occurring every five minutes. The abdomen was symmetrically enlarged. The fetal back was to right: the fetal extremities occupied upper left quadrant. The anterior shoulder was near middle line, and the fetal head was in the pelvis. Fetal heart sounds were heard in the right lower quadrant—142. The cervix was fully dilated. Position was R. O. A. I ruptured the membranes before removing the examining hand from the vagina. About 3 a. m., the head appeared at the vulva. Soon after, in the interval of pains, there were repeated gushes of blood from the vagina. I suspected a premature detachment of placenta but as the labor was progressing satisfactorily and the patient seemed in perfect condition, I did not interfere. After delivery of the head there was considerable delay in the birth of the shoulders. The hemorrhage continuing, I assisted the delivery of shoulders with fingers in the axilla. Even after the delivery of the shoulders, however, the body seemed to recede and to remain stationary. Slight traction brought fetus and placenta *en masse*.

Description of Child.—The head, neck and arms, pelvis, thighs and legs were perfectly formed. Both ankles were in position of talipes calcaneovarus. There was a small meningocele at the base of the sacrum. The abdominal parietes were entirely wanting and were replaced by a thin, transparent serous membrane. This membrane was continuous with both skin and parietal peritoneum at the costal and pelvic margins and along the outer border of the muscles of the back. This membrane also lined the inner surface (fetal) of the placenta and extended over the three blood-vessels near the center of the placenta. The umbilical arteries, the umbilical vein, the liver, gall bladder, stomach, intestines and upper part of bladder were plainly visible. With the exception of a low position of the transverse colon, an apparent shortening of the colon, a positive shortening and thickening of the omentum, all abdominal and pelvic (female) organs seemed to be normal. The child cried lustily but gradually grew weaker and died after about half an hour.

185 East Seventy-first street.

1. Ramsay: Northwest Med. Jour., 1857, new series, vi., 450.

Therapeutics

HOW AND WHEN SHALL DRUGS BE ADMINISTERED?

This is a question of vital importance, as even if the diagnosis is correct, the indication for a drug positive, and the selection of the drug needed accurate, all is of no avail if the drug is administered in an insoluble preparation, at a wrong time to accomplish the object aimed at, or in a frequency that is either useless on the one hand or dangerous on the other. To be more explicit, it lacks physiologic and therapeutic sense to administer a drug, that is quickly absorbed and quickly eliminated, when a continuous action is desired, so infrequently that there is only momentary, intermittent effect. On the other hand, it is futile to administer a drug for immediate need that requires hours to act. It is certainly physiologically wrong to administer a drug frequently that requires hours, or even a day or two to be excreted.

The greatest number of mistakes in medication are made in the treatment of inflammations and diseases of the stomach, and in disturbances of the digestion. If simple gastritis is diagnosed, and it is decided to treat it with bismuth, how futile to expect that a few grains given immediately before meals (or, we are sorry to say, often immediately after meals) could do any good in ameliorating the irritation of the stomach mucous membrane. For bismuth to aid in healing this membrane, it must be spread well over it when the stomach is empty. Also, it is well to wash off the mucus which must of necessity form on any inflamed mucous membrane. Bismuth for this purpose should be given an hour before a meal, in a dose of 2.0 or 3.0 grams (30 or 45 grains), taken with a not too large amount of water, and such administration should be preceded a half hour before by a large draught of hot water, with or without a little salt, and perhaps a small amount of bicarbonate of sodium to wash off the mucus and prepare the membrane for the bismuth treatment. Such treatment once a day, combined with a diet regulated to cause the least irritation and the proper treatment of coincident constipation, will rapidly heal simple gastritis. This same treatment is a valuable aid in healing an ulcer of the stomach.

If it is deemed advisable to administer nitrate of silver, how useless, in the first place, to order it in such a form that it will be oxidized before it is taken by the patient, and how useless to give it after a meal. Also, what lack of good sense is displayed when a nitrate of silver treatment is given two or three times a day. How many would touch a canker sore, or other surface inflammation, with nitrate of silver three times a day, or twice a day, or even once a day? A nitrate of silver treatment for ulcer of the stomach or duodenum may be

tried once a day, or once in two days, for a few days, but never for any length of time, and then it is best to have the dose of nitrate of silver combined with some inert earth, in capsule, and the capsule uncapped at the moment of swallowing and taken into the empty stomach with a suitable amount of hot water. This will insure, as near as it is possible, an application of the nitrate of silver to the ulcer.

The value of digestants as generally administered is open to much question. A small amount of pepsin, given after an ordinary meal, is probably of but little value. The value of dilute hydrochloric acid after meals, when the stomach needs it, is proved, and frequently when pepsin is administered it is combined with hydrochloric acid, and it is likely that the hydrochloric acid does the work. A combination of pepsin with bicarbonate of sodium, as often seen, is of course absurd. The coincident administration of pancreatin and pepsin seems unworthy of serious consideration. The pancreatin will not act in acid media, and its activity will doubtless be entirely destroyed before it reaches the intestine. Sometimes it may be advisable to administer bicarbonate of sodium before meals. At this time it may do two things. It may cause the contents of the stomach to be alkaline or neutral longer than without it, thus aiding the starch digestion due to the saliva. If, however, it is in the stomach many minutes before the meal, it would probably quickly stimulate an outpouring of hydrochloric acid to neutralize it. After meals it would doubtless prolong the starch digestion, and temporarily, at least, inhibit the protein digestion. For heart burn or pyrosis occurring several hours after a meal the bicarbonate of sodium is certainly valuable symptomatic treatment to counteract the hyperacidity. Such acidity, however, is often due to lactic acid and not to hydrochloric acid. Such treatment is purely symptomatic, and the repeated administration of soda is inadvisable, and the cause of the condition should be removed if possible.

A large number of drugs, especially alkaloids, even bitters, and alcoholic preparations in any amount, will inhibit the digestion more or less. In ordinary doses, however, the inhibition is probably but slight, and any drug or preparation that is irritant to the stomach should certainly be administered either directly, or within an hour, after meals. Even bland, non-irritating tablets, pills, and capsules should generally be administered after a meal, or at least with a large draught of water, and the tablets should be crushed before swallowing. Potassium chlorate tablets should not be dissolved in the mouth, as the concentrated saliva containing this solution when swallowed, is irritant to the stomach and may cause inflammation and even ulceration. Certainly such tablets should never be swallowed into the stomach, and there is no logical or rational reason for ever administering potassium chlorate internally. Bromid tablets, salicylic acid or its salts in tablets, tablets containing ammonium chlorid, and in fact most tablets may cause irritation of the part of the mucous membrane on which they dissolve, if swallowed into the empty stomach, and most of the above-named tablets should be predissolved, or certainly crushed before taking into the stomach at any time. Quinin pills or tablets should never be taken on an empty stomach. If in any dose other than a small tonic one, quinin will slow peptic digestion. Consequently, if large doses are administered, it is well to give them between meals, swallowed with a few ounces, more or less, of milk or other simple, easily digestible food. If a patient does not sleep well, or does not get to sleep readily at night, the possibility of a tonic capsule or pill of quinin, or quinin and strychnin, or strychnin, given after the evening meal being the cause of it should be considered, and the evening dose omitted. Also, many a patient is given hypnotics for insomnia, when the omission of the evening tea or coffee will allow normal sleep. It is physiologically wrong to give a hypnotic to a patient who is ill when he is being hyperstimulated by strychnin throughout the afternoon and evening.

For medication of the bowels with bismuth, large doses, or perhaps better, frequent doses, are always needed, as doses unless very large, given at long distances apart, are likely to pass along with the food and not medicate the bowel mucous membrane at all. It is useless to expect that bismuth administered by the mouth will heal or medicate the mucous membrane of the colon.

If morphin must be administered and the patient is taking nutriment, if possible, it should not be given within one or two hours after a meal, as the digestion will certainly be inhibited.

When cathartics are necessary, it is generally well understood which act rapidly and which slowly, which are to be given at bedtime or better even, often at suppertime for action the next morning, and which given before breakfast for immediate action. However, many combinations are made which combine quickly acting cathartics with slowly acting cathartics. Such combinations are certainly a mistake. Aloin, cascara, podophyllin, euonymus, sulphur, calomel, and rhubarb all generally act slowly, taking anywhere from 6 to 12 hours. The salines and the drastic cathartics generally act in from 2 to 4 hours. Senna may act in from 4 to 6 hours. Of course the size of the dose has a great deal to do with the rapidity of action, but the above is approximate.

It has been supposed for some time that the experiments were conclusive that saline purgatives acted by the fact that they were very slowly absorbed and caused an exudate of water into the intestine so that the fluid in the intestines and the fluid in the blood vessels would become isotonic, and that this mechanical fact, *viz.*, the water with increased peristalsis, was the cause of the large watery stools from salines. Clinically, it has also been noted that salines act better when the patient is up and about than when he is in bed and at rest. This has again seemed to prove that gravity had a great deal to do with the rapidity of the saline catharsis. Lately, however, Dr. Arthur F. Hertz, Assistant Physician at Guy's Hospital, London (*Guy's Hospital Reports*, Vol. LXIII) has shown, by administering bismuth preparations at various periods of digestion and taking *x*-ray pictures of the abdomen at different periods of digestion, that salines are really absorbed from the stomach and upper bowel and probably re-excreted into the lower intestine. Hertz, in cooperation with F. Cook and E. G. Schlesinger, has shown that when food is taken into the stomach it reaches the cecum in about four hours. A saline aperient, on the other hand, may cause an action of the bowels in some instances in even half an hour, and often within two hours. Insoluble bismuth being administered with a meal will show, by radiographs, the exact length of time in which food passes down through the different parts of the intestine. A seidlitz powder or its equivalent, taken at the time of the bismuth, or with the bismuth and food, and then radiographs taken, shows that the movement of the bowels comes long be-

fore the bismuth and food reach the cecum and colon. The excess of water excreted, therefore, with such movements cannot come from the small intestine, as otherwise it would wash the meal and the bismuth down with it, but really must be excreted into the lower gut. Saline purgatives also seem to cause no increased acceleration of the passage of the food from the stomach to the cecum. These investigations seem to show clinically that when it is desired to empty the colon and not act on the small intestine, salines are indicated, but when it is desired to cause stimulation for excretion or for increased peristalsis or for drainage of the upper intestine, other cathartics than salines are indicated.

Dr. William Brady, of Elmira, N. Y. (*New York Medical Journal*, Jan. 29, 1910) writes a most instructive article on the administration of drugs. He emphasizes the necessity of knowing the length of time before a drug is absorbed and about the length of time in which it will be eliminated.

Probably in no branch of medicinal therapeutics are more mistakes made than in the treatment of cardiac and circulatory weakness. Brady shows how really futile it is to expect active aid from digitalis in any acute heart weakness, and yet digitalin is constantly used hypodermatically for this purpose. Much of the digitalin on the market is unreliable, and while it is less irritant when used hypodermatically than the liquid preparations of digitalis, it has not been proved that it is any more effectual as a cardiac tonic than a sufficient dose of a liquid preparation of the whole drug. If the cardiac drugs are separated into cardiac stimulants and cardiac tonics (the stimulants acting quickly, but such action not lasting any length of time; the tonics acting slowly, but projecting their activities for a considerable length of time) one will not make mistakes in their use. The cardiac stimulants are, ammonia, camphor, strychnin, atropin, suprarenal and pituitary preparations properly used, and in some instances where only a quickly acting and not lasting stimulation is required, alcohol. The cardiac and circulatory tonics are, digitalis, strophanthus, caffein, and ergot used hypodermatically. Caffein and strychnin are really stimulotonics, both acting rather quickly and having their effects last a considerable length of time. In certain conditions when the heart is failing and the blood-pressure high, nitroglycerin and nitrites will relieve the heart and improve the whole character of the circulation. While nitrites act quickly and such action is theoretically and laboratorily quickly over, if given three or four times a day they will positively project, in most instances, a lowering of the blood pressure over the whole twenty-four hours.

Brady repudiates the so-called Da Costa (nitroglycerin compound) tablet containing digitalis, strophanthus, belladonna, and nitroglycerin, as combining drugs which act quickly with those which act slowly. His criticism is just. At the same time, the nitroglycerin of the second and third dose will doubtless prevent some of the vasomotor contraction of the first dose of digitalis. Consequently, the combined treatment, whether given in one tablet or in separate preparations, is often not bad therapy. Theoretically and practically a little more careful discrimination of the needs of each patient will develop a method of drug administration that will be satisfactory and yet will not require such combination, *viz.*, if the patient needs nitroglycerin, he probably does not need digitalis. On the other hand, if he needs digitalis, and it is inadvisable to contract the blood vessels, a small dose of digitalis may give satisfactory action, and nitroglycerin will not be needed.

Brady emphasizes the well-known but often disregarded fact that oils inhibit digestion by diminishing the secretion of hydrochloric acid. Consequently, if it is advisable to give a patient olive oil or cod-liver oil (and, as urged by Brady, pure, clean cod-liver oil acts just as well and often better than any emulsion), theoretically it should be given two hours after a meal, at about the time when the stomach will completely evacuate its contents into the duodenum. This is theory, and perhaps physiologically correct. Practically, it is very disagreeable for a patient to take oil two hours after meals, even if he were so daily situated as to be able to do so. Also, the contents of the stomach do not all pour, at one stated time, into the duodenum, but more or less frequently during the process of gastric digestion certain amounts are passed into the duodenum, and the oil might be passed into the intestine long before the gastric digestion was completed.

Brady states that hexamethylenamina is eliminated into the cerebrospinal fluid in one-half hour after its administration, and this, he states, in sufficient amount to inhibit staphylococcus growth. So far as we know, hexamethylenamina is harmless when administered in any ordinary amounts for most any length of time; consequently, the drug seems indicated whenever meningitis is present or is likely to develop. This drug is also eliminated and acts satisfactorily in inflammations of the gall-bladder and in inflammations of the urinary tract, especially of the pelvis of the kidney. It would seem advisable to administer it in typhoid fever to prevent localizations of the typhoid bacillus in parts of the body other than the intestine.

As Brady emphasizes, it should not be forgotten that the iodids are absorbed rapidly and are eliminated rapidly, unless they have been given for a long time, when it may take several days for the excess of iodid to be completely eliminated. Bromids, on the other hand, are absorbed rather slowly and are eliminated very slowly, and if taken for a long time, may not be completely eliminated for weeks.

Phenolphthalein is very slowly absorbed and acts very slowly and is best given as a tablet which should be thoroughly masticated before swallowing. Sometimes this drug, even in small doses, causes a great deal of irritation of the bowels.

Thyroid Treatment of Regularly Intermittent Joint Effusions.—P. Ribierre gives a historical sketch of regularly intermittent joint effusions, the syndrome, differentiation, etc., and reports a typical case in which analysis of the attacks, their periodical recurrence and the general condition suggested that the thyroid functioning might be at fault. The subsidence of the attacks during pregnancy and various other features of the disease sustain the assumption of defective glandular functioning as the main factor in the etiology, he is convinced. His patient was a woman of 34; under thyroid treatment the general condition improved, the periodicity and severity of the joint affection were materially modified and finally the attacks ceased entirely. Nearly two years have elapsed to date since the last attack. Before the thyroid treatment was commenced they had recurred every ten days for nearly two years, affecting both knees. The thyroid treatment was given at intervals from October, 1905, to March, 1908. The details of the case and of treatment are given in the *Bulletin de la Soc. Méd. des Hôp. de Paris*, 1910, xxvii, 96.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1910," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 1545*)

CHINOSOL.—Normal Oxychinolin Sulphate.—Chinosol is a normal oxychinolin sulphate $(C_9H_7ON)_2H_2SO_4$.

Chinosol is a yellow crystalline powder of saffron-like odor and burning taste. It melts at from 175° to 177.5° C. (347° to 351.5° F.). It dissolves readily in water but with difficulty in alcohol and it is insoluble in ether. The aqueous solution has an acid reaction.

A drop of solution of ferric chloride produces in a solution of chinosol a marked green coloration. Barium chloride produces a white precipitate. Solutions of alkaline hydroxides precipitate from an aqueous solution of chinosol a white precipitate, consisting of interlaced crystalline needles, which after filtration, washing and careful drying in a desiccator should melt at from 73° to 75° C. On incineration chinosol should not leave a weighable residue.

Actions and Uses.—So far as experimental evidence goes, chinosol is nontoxic. It is a powerful antiseptic equal in this respect to mercuric chloride and considerably stronger than phenol. It exerts an antiseptic action in solutions containing 1 part to 5,000. It is a feeble germicide being weaker than phenol and much weaker than mercuric chloride.

Dosage.—For internal use 0.3 Gm. (5 grains) three times daily. As an antiseptic the average strength of solution is 1 to 1,000; as a nasal or vaginal douche, it is best given with 1 part to 5,000, and as an eye-wash 1 to 8,000, gradually increasing the strength of the solution according to the sensitiveness of the patient.

Manufactured by Franz Fritzsche & Co., Hamburg, Germany (Chinosol Co., Parmele Pharmacal Co., New York). U. S. patent No. 906,918. U. S. trademark No. 28,750.

DIGIPURATUM.—Digipuratum is a purified extract of digitalis, said to contain about 0.4 per cent. of digitoxin and 4 per cent. of digitalin in the form of a tannate. It is standardized biologically by the method of Gottlieb. It is claimed that 85 per cent. of the inactive substances found in the ordinary extract have been removed and that it is free from digitonin and other gastric irritants.

Digipuratum is a greenish yellow, odorless powder of bitter taste. The active constituents of digipuratum are insoluble in cold water and diluted acids, but are easily soluble in weak alkalies.

Digipuratum responds to the following identity test: If 0.1 Gm. digipuratum is underlaid with about 3. Cc. of glacial acetic acid which contains 1 per cent. of a 5 per cent. solution of ferric sulphate, there appears a red band (presence of digitalin) and above this another, at first bright green, later changing to dark green and finally blue (presence of digitoxin).

To determine the digitoxin content, 10 Gm. of digipuratum are dissolved with moderate heat in 50 Cc. of water; 5 Cc. of 10 per cent. ammonia water are added and the liquid is then extracted with chloroform. The chloroformic extractions are filtered into a tared vessel and the chloroform removed by distillation. The residue is dissolved in 3 Gm. of chloroform and mixed with 7 Gm. of ether and 50 Gm. of petroleum ether. The separated flakes are collected on a small filter. Then the residue on the filter is dissolved in absolute alcohol, allowing the solution to run into the tared distilling vessel. The alcohol is then distillated off and the residue dried to constant weight. The digitoxin thus found should not amount to more than 0.04 Gm.

The physiologic activity is determined by the method of Gottlieb: 1 Gm. of digipuratum is dissolved with heating in 19 Cc. of water and 1 Cc. of a 2 per cent. solution of sodium bicarbonate. If now 0.15 Cc., 0.2 Cc., and 0.25 Cc., respectively, of this solution is injected into the femoral lymphatics of freshly caught land frogs (rana temporaria), weighing 30 Gm. each, the exposed heart of the animals should permanently be brought to a stop in the majority of instances (say in five out of six experiments) within half an hour after the administration of a 0.2 Cc. dose. If 0.2 Cc. of the 5 per cent. solution=0.01 Gm. of digipuratum, is sufficient to stop the systolic heart-beat within half an hour, then 1 Gm. of digipuratum will contain 100 units; should 0.25 Cc. of the 5 per cent. solution be necessary, the number of units of digipuratum it contains would be 80; if 0.25 Cc. should not yet prove sufficient, the preparation would be too weak to be effective; and should the systole be arrested after a dose of 0.15 Cc. within half an hour after injection, the preparation would be too strong.

The total physiologic activity having been determined, the relative amount that is due to digitoxin can be determined by using the digitoxin separated in the above quantitative determination and by the difference between this amount and the total physiologic activity the amount due to the digitalin alone can be estimated.

Actions and Uses.—The same as digitalis, but it is claimed that it is less liable to disturb the stomach and on account of its exact dosage cumulative effects can be more easily avoided than with other preparations of digitalis.

Dosage.—The same as digitalis.

Manufactured by Knoll & Co., Ludwigshafen a. Rh. and New York. U. S. patent No. 943,578. U. S. trademark No. 73,012.

Digipuratum Tablets, 1 1-2 grains.—Each tablet is said to contain digipuratum 0.1 Gm. (1 1/2 grains).

SECACORNIN.—Ergotin Roche.—Secacornin is a solution of the active principles of ergot in a menstruum consisting of distilled water, glycerin and 7.5 per cent. of alcohol. 1 Cc. of secacornin corresponds to 4 Gm. of ergot U. S. P. and is said to be standardized according to the method of Kehrer (Arch. f. exp. path. u. Pharm., vol. lviii).

Secacornin is prepared from ergot by removing fat by means of benzin or similar solvent and exhausting by percolation with diluted alcohol. The total percolate is then deprived of its alcohol by distillation in vacuo. The resinous mass which separates after cooling is then carefully drained off and the clear filtrate having been evaporated to the consistency of an extract is mixed with the general vehicle.

Secacornin is a dark brown solution, said to be sterile. It is claimed that it does not deteriorate on keeping.

Secacornin responds to the following identity test: 1.6 Cc. secacornin is mixed with 3.0 Cc. distilled water, and 5 drops of 10 per cent. ammonia water, and shaken out in a separatory funnel with 20.0 Cc. of ether. After complete separation of the two liquids, the aqueous solution is allowed to flow off, the remaining ether washed with 2.0 Cc. distilled water, and the wash-water likewise carefully separated. After this the ethereal solution is filtered into an Erlenmeyer flask, and traces of water removed by the use of as much anhydrous sodium sulphate as can be held on the point of a knife. Following this it is filtered into a small glass dish and cautiously evaporated.

The residue is then dissolved in from 1 to 1½ Cc. ferric chloride-acetic acid (1 drop of Liq. ferri chloridi with 200 Cc. acetic acid). To this solution is added with a pipette, cautiously and without mixing, in order to form an understratum, 3.0 Cc. pure concentrated sulphuric acid. At the point of contact of the two liquids a characteristic blue to violet ring forms after a time.

Action and Uses.—The same as ergot.

Dosage.—0.5 Cc. (8 minims) are equivalent to 2 Cc. (30 minims) of fluid extract of ergot U. S. P. It may be given by intramuscular injection in doses of 0.5 to 1 Cc. (8 to 15 minims).

Manufactured by F. Hoffmann-LaRoche & Co., Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York). Not patented. U. S. trademark No. 58,830.

DESICCATED THYMUS—Armour.—Desiccated Thymus—Armour, consists of the fresh thymus gland of the calf freed from fat, cleaned, dried and powdered, without the addition of preservative or diluent.

A very light yellow powder, having a peculiar odor. Partly soluble in water.

One part represents approximately 5 parts of the fresh thymus gland. It is rich in nucleoprotein and in lymphoid tissue. Upon incineration, it should yield not more than 12 per cent. ash.

Actions and Uses.—See Thymus Gland (N. N. R., 1910, 144).

Dosage.—0.13 to 0.25 Gm. (2 to 4 grains) three times daily.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Thymus Tablets-Armour.—Each tablet contains desiccated thymus 0.065 Gm. (1 grain).

Dose.—2 to 4 tablets three times a day.

(*To be continued*)

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, MAY 28, 1910

THE MEIOSTAGMIN REACTION

Immunity reactions are constantly gaining a wider field of usefulness as diagnostic aids, and as new facts are discovered, exact diagnosis will doubtless be a matter of comparative simplicity in a great number of diseases in which one has to rely now on more or less equivocal signs, at least in the atypical or mild forms of disease.

Recently, Ascoli[1] has discovered a new phase of immunity reactions, which is physiochemical in nature and consists in a determination of the surface tension of an immune serum plus its specific antigen before and after incubation at 37 C. for two hours. He employs the stalagmometer of J. Traube for measuring the surface tension; by means of it, one can determine exactly the number of drops in a given quantity of fluid. Since after incubation he finds a lowering of the surface tension and a consequent decrease in the size of the drops (as will be shown later), Ascoli designates the test the "meiostagmin" reaction, from Greek words meaning "small" and "drop."

The first disease investigated was typhoid fever. From patients suffering with the disease, serums were obtained which agglutinated typhoid bacilli in dilutions ranging from a strength of 1 to 80 to that of 1 to 360. For the antigen, an alcoholic extract of typhoid bacilli was prepared, according to the method of M. Neisser and Shiga.[2] The serum was employed in a dilution of 1 to 10, the antigen in dilutions of 1 to 1,000, 1 to 10,000, 1 to 100,000 and 1 to 1,000,000; 0.85 per cent. sodium chlorid solution was always used as the diluent. To 9 c.c. of the diluted serum 1 c.c. of diluted antigen was added, and the number of drops in the mixture was immediately determined. The fluid was incubated for two hours and, after being allowed to cool to room temperature, the number of drops was again determined. When antigen, in dilutions ranging from a strength of 1 to 1,000 to that of 1 to 100,000, was used, a lowering of the surface tension was always found, as shown by the increase in the number of drops by two to three. This constituted a positive reaction. Ascoli found that normal serums, used as controls, when united with typhoid antigen and incubated, showed no decrease in the size of the drops. Similarly, negative result was obtained with typhoid serums when an alcoholic extract of colon bacilli was substituted for the typhoid antigen.

Izar,[3] a pupil of Ascoli, extended the study of the meiostagmin reaction to twelve luetic serums with very interesting results. The antigen was prepared from the spleen of a syphilitic fetus. The serum was diluted with physiologic salt solution, the proportions varying from 1 to 20 to 1 to 100, the antigen being diluted 1 to 100 in all experiments. The two were united in the proportions employed by Ascoli with typhoid. Of the luetic serums tested, eleven gave a positive Wassermann reaction, while with the meiostagmin reaction all were positive, the increase in the number of drops varying between two and five.

For control, other antigens were prepared from material showing tuberculosis, carcinoma, sarcoma, echinococcus and typhoid. All were negative with the luetic serums; the number of drops was never increased more than one. As a further control, serums from patients suffering from a number of diseases other than syphilis were tested with syphilitic antigen. The most interesting of these were two serums obtained from leprous individuals, both of which gave a positive Wassermann reaction. They were sent to Izar with the statement that they yielded a positive Wassermann reaction, and it was only after a negative meiostagmin reaction was obtained that he learned that the patients were leprous and not luetic. The positive reactions, then, included the twelve patients known to be luetic, all controls being negative.

Finally, Ascoli and Izar[4] have sought to apply the meiostagmin reaction to the diagnosis of malignant neoplasms. Preliminary to their observations on human material, they examined the serums of normal and sarcomatous rats; positive reactions were obtained in all of nine sarcomatous animals, while eight normal controls were negative. After obtaining these results, human serums were tested against sarcomatous rat antigen and, in the later cases, against carcinomatous human antigen. (Ascoli and Izar give the preparation of the antigen in detail.) Their material included sixty-two patients suffering with malignant tumors, both carcinomas and sarcomas, a majority of the diagnoses being confirmed by histologic examination of tissue. Of these patients, fifty-eight gave a positive meiostagmin reaction; forty-eight patients suffering with other diseases (including two with lipomas and two with leukemia) all reacted negatively.

Ascoli and Izar are cautious in their conclusions. The results thus far obtained make it appear that the meiostagmin reaction is specific and that its field of application may be extensive. The great simplicity of the technic as compared with that of the Wassermann reaction should bring the method into almost immediate general use, if the results prove to be dependable. It remains, however, for further observations to demonstrate to what extent the reaction may be relied on as an aid to diagnosis.

1. Ascoli: München med. Wchnschr., 1910, lvii, 62.
2. Neisser and Shiga: Deutsch. med. Wchnschr., 1905.
3. Izar: München. med. Wchnschr., 1910, lvii, 182.
4. Ascoli and Izar: München. med. Wchnschr., 1910, lvii, 403.

THE CHINOSOL REPORT

The report by the Council on Pharmacy and Chemistry, which appears elsewhere[1] in this issue, is of more than ordinary interest. The preparation with which the report deals—Chinosol—was originally advertised as a most remarkable antiseptic and germicide free from the dangers of poisoning. These claims were so important that an investigation of the product was undertaken by the Council, the results of which were published as a report in THE JOURNAL Jan. 25, 1908. This investigation verified the statement that Chinosol is a good antiseptic, but it showed, on the other hand, that the germicidal action of the product is vastly inferior to that which was claimed for it. In its report, the Council accepted the conclusions of Weyl—since proven erroneous—that Chinosol has toxic properties and it pointed out that the chemical composition, as given by the American agents, had repeatedly been shown to be false and could be so demonstrated by a very simple analysis.

The American agents, the Parmele Pharmacal Co., having challenged not only the conclusions of the report but also some of the facts, the Council ordered a complete reinvestigation of the disputed points, by an independent bacteriologist, as well as by its original referee. This has extended over two years, and in the meantime additional confirmatory evidence has been obtained by eminent and independent investigators in England and Germany. The conclusions which the Council has drawn from its second investigation are presented in the present report. In brief, it is shown that the work of the original referee and the conclusions based directly on this work, were correct in every particular, but that the Council made a mistake in accepting Weyl's conclusions as to the toxicity of the product.

Regarding the false statements in the advertisements dealing with the composition of the product, the agents have since explained that they quoted *verbatim* from the United States Dispensatory, and that they did not know that any controversy had arisen as to the chemical composition. As to the matter of toxicity, the headline in the Council's original report, "Not free from danger of poisoning," went beyond the evidence. The Council had not itself investigated this point and was misled by a definite quotation. The experiments which the Council has since conducted have failed to bring out any evidence that Chinosol is harmful. While this, being negative evidence, is not conclusive proof that the product is absolutely harmless it must be conceded that so far as our present knowledge goes, there is no ground for challenging the claim of safety. Public safety and professional responsibility require that claims of absolute freedom from danger shall be supported by incontrovertible and unassailable evidence. The Council takes the attitude that in such cases a large number of negative observations are practically invalidated by a single, well-authenticated positive observation—an attitude which is unimpeachable in principle.

1. Pharmacology department, page 1801.

The most important findings of the Council, however, relate to the antiseptic and germicidal action of the preparation. Regarding the antiseptic value there has been no dispute. As to the other point, however, the Council confirmed its first report, that Chinosol is practically valueless as a germicide. This conclusion—and it was really the main issue of the first report—has been abundantly confirmed by independent investigators both at home and abroad, and in regard to it there can be no doubt. The experimental results on which the agents for Chinosol based claims, having been shown conclusively to be vitiated and invalidated by the want of proper experimental precautions. In extenuation, however, it should be said that the company was led into its serious error by a mistake of its technical advisers, a mistake which could be discovered only by experts.

The distinction between germicide or disinfectant and antiseptic or preservative is sometimes lost sight of and yet the difference is a vital one. A substance that is excellent for inhibiting the growth of bacteria (antiseptic) might be valueless as a killer of bacteria (germicide). It is evident, therefore, that to rely on the claims that were previously made for germicidal power would be extremely dangerous, and might more than offset any good that might follow the legitimate use of the article in its proper field as an antiseptic. The physician and surgeon must know exactly the limitations of such a remedy in both directions.

The report illustrates once again the need of independent and critical investigation of all proprietary remedies. It is necessary, not only to prevent fraud, but also to discover false claims made in perfect good faith and on apparently good authority. These last are, in some ways, the most dangerous: A manufacturer who was sincere in his false convictions would be likely to employ his superior material resources in such a way that an isolated independent investigator would scarcely obtain a hearing. It is doubtful whether such claims could be challenged successfully, except by an independent but official organization, possessed of the resources of the Council. The incident also illustrates the pains which the Council takes to get at the truth of disputed points. It shows too, that a manufacturer who has any legitimate grievance against the Council, may be assured that his representations will be considered fairly and without prejudice.

A NEW COMBINATION AGAINST THE AMERICAN MEDICAL ASSOCIATION

Within the past few days the newspapers of the chief cities of the country have carried large advertisements headed: "Do You Want the 'Doctors' Trust' to be able to Force its Opinions on You?" These advertisements paint in vivid colors—"yellow" predominating—the disaster and general destruction that will follow the formation of a federal department of health. They emanate from, or to be more correct, are signed by, an organization calling itself the "National League for

Medical Freedom." In addition to the regular display advertisements, the press agent is supplying matter for the reading pages, and there is every evidence that the propaganda is not lacking financial support. Of course the American Medical Association is the *bête noir* the "league" seeks to kill; it is the "medical trust" referred to. Members of the Association will be surprised to learn that if a national department of health is created it will result in "denying to the people the right to determine for themselves the kind of medical treatment they shall employ." For this reason, and so far as the advertisements state, for this reason only, the National League for Medical Freedom has been brought into being. As a slogan under which the real reasons for organizing may be carefully concealed, it may serve its purpose. Most people prefer to have their thinking done for them and this alone will prevent the absurdity of such a proposition, as that on which the "league" is ostensibly founded, becoming apparent. Yet every person with the most elemental knowledge of our government knows that the regulation of the practice of medicine and the licensing of physicians is a function of the state and that any law attempting to confer such power on a department of the federal government would be unconstitutional. The proposed department of health would have just as much authority to determine what "kind of medical treatment" the people should employ as the Department of Agriculture has to dictate to the farmer regarding the implement company he shall buy his plows of. Yet, we are asked to believe, apparently, that a national department of health would mean that the free-born American citizen who wanted to have a purulent appendix cured by the "spinal adjustment" route, would have to patronize a surgeon, even though he were a "conscientious objector" to surgery. It would mean, it seems, that the individual suffering from malaria who wished to be freed from this "moral error" by "absent treatment" would be ignominiously dragged to the internist and dosed with quinin. It would mean that the optimist who would cure his rheumatism by wearing a "guaranteed magnetic ring," would have to endure the administration of the salicylates. It would mean—but why pursue these harrowing predictions further?

Seriously, though, there must be something wrong with the mental make-up of the individuals composing this "league" who expect—even by such potent means as the lavish distribution of printers' ink—to persuade a reasonably sane people that any law might, could or would be enacted that would curtail the rights of the public as they have suggested. Of course, the fact is that the moving spirits behind the organization of the "league" have neither an overwhelming solicitude for the public welfare nor any strenuous objection to the formation of a national department of health. The "league's" actual, and fairly evident, *raison d'être* is opposition to and antagonism against the American Medical Association. To disclose the source of this opposition it is only necessary to call attention to some of the members of the "advisory board"—high-sounding title—as reported in the newspapers, to make reasonably clear to the members of the American Medical Association the "power behind" the "league." The publisher of the *Medical Standard* and *Western Druggist*, for instance, has long been known as a defender of, and mouthpiece for the "patent medicine" and proprietary interests. His presence on the "advisory board" is fitting, and the only surprising thing about it is that he should have been guilty of such a tactical blunder as getting into the fierce light of publicity.

That the president of the A. D. S. should be on the "board" was to be looked for, and being looked for, is found. And there are others! Among the lesser satellites in this distinguished galaxy are those who very naturally might be expected to enter enthusiastically into such a campaign—the president of an antivivisection society, some "mental healers" and one or two journalists of varying degrees of obscurity. Of the latter, one has for years been strongly opposed to medical organization and more recently has taken up that mental vagary known as "new thought." Taking into consideration both the objects of the "league" and the personnel of its "board" one feels that the New York *Journal* expressed only a half-truth when it said:

> "The druggists and the proprietary medicine interests throughout the country are said to be chiefly concerned in defeating the Owen bill."

It would have been nearer the facts if for "defeating the Owen bill" were substituted the clause "attempting to disrupt the American Medical Association." A dozen years ago the public might not have been able to see the animus prompting this attack—today it is wiser.

As to the publicity which this sensational and costly campaign will give to the American Medical Association the medical profession may welcome it. One thing that has long been needed is that of directing the attention of the laity to the aims and accomplishments of the American Medical Association. It welcomes investigation—the more the public learns about the work the Association is doing the better for the Association. It has nothing to be ashamed of, but it has a great deal to be proud of; its work in the interests of both public welfare and scientific medicine is and always has been open and above board. The Association needs no defense; it is not only well able to stand on its record, but is proud of that record.

EFFECTIVE PRACTICAL WORK AGAINST TUBERCULOSIS

Some splendid examples of work that should prove highly effective in the campaign against tuberculosis and the spitting habit are reported from Salem,[1] Mass., and Rochester, N. Y. The carefully laid plans of the

1. The Salem campaign was described in THE JOURNAL, April 23, 1910, p. 1398.

Rochester Public Health Association included a billboard and advertising-sign campaign against the spitting evil, the distribution of small printed slips bearing warning against promiscuous spitting, factory talks of ten minutes each at noon by physicians, night meetings, a Children's Day, when the school children were instructed by prominent physicians on how to avoid disease, talks to fraternal organizations, trades unions, etc. One of the most valuable features was a series of "Tuberculosis Talkettes" in the five daily newspapers of Rochester by prominent physicians of the city, each "talkette" being a brief, terse presentation of a different phase of the tuberculosis question and the spitting evil. These consisted of not over forty or fifty lines in the paper, going directly to the point and telling in language easily understood by the layman the nature of tuberculosis, its cause, methods of transmission or contagion, the relation of the spitting habit to the spread of the disease, the necessity for personal and public hygiene, good habits, food, clothing, air, and various related subjects. All the subjects were treated in a way to show their practical application to the daily life and the welfare of each individual. The campaign reached its climax in a public meeting on April 22, at which Dr. Livingstone Farrand, executive secretary of the National Association for the Study and Prevention of Tuberculosis, Dr. John H. Lowman, Cleveland, O., and Professor Adolphus S. Knopf, New York, all enthusiasts in the fight against tuberculosis, gave addresses on tuberculosis. Following this meeting came Tuberculosis Sunday, observed all over the country, April 24, when the ministers of Rochester addressed their congregations on the work that had been done and the importance of its continuance. A long list of persons from the factories, mercantile establishments, fraternal orders, clubs, etc., was appointed by the Public Health Commission to act as permanent representatives in promoting the work of the Association. Such a vigorous campaign could scarcely fail to reach in some way every man, woman and child in the community, and its value in accomplishing the objects sought cannot be overestimated. Rochester and Salem are to be congratulated on these systematic efforts, which should serve as models everywhere, and then much real progress in the war on tuberculosis would be made.

IS IT TRUE? ASK YOUR DRUGGIST!

Elsewhere we call attention to the source and character of the opposition that has developed, ostensibly against the bill providing for a national department of health but actually against the American Medical Association. It is said that in the hearing before the committee having the bill in charge, Senator Smoot read a letter from the president of the National Association of Retail Druggists (and of the American Druggists Syndicate), claiming that 40,000 members of the N. A. R. D. were against the bill! If this statement is true it is well that the physicians of the country should know it; if it is false then the president of the N. A. R. D. (and of the A. D. S.) has grossly libeled and misrepresented the retail druggists of the country. We believe the statement, if made as reported, to be unequivocally false. We believe that the vast majority of the druggists who are members of the N. A. R. D. are in hearty sympathy with the aims and efforts of the medical profession to conserve the public health. We believe that while some of the officers of the N. A. R. D., because of their connection with the A. D. S., are bitterly opposed to the American Medical Association and all it stands for, they do not in any sense represent the attitude of the members of the former organization. In fact, it is unthinkable that the decent pharmacists of the United States should be lined up with "patent medicine" fakers, "newthought" faddists, antivivisection cranks, *et hoc genus omne*.

ORANGE-RED CLOTHING NO IMPROVEMENT

The acquisition by the United States of its island possessions and of interests in Panama and Cuba has raised many new problems concerning the health and comfort of the forces of occupation and administration in tropical climates. Among the questions arising has been the one of suitable clothing. An experiment made in the Philippines among the military forces was the use of orange-red underclothing as a protection against heat, and especially as a preventive of heat exhaustion. This experiment was made following the report of the British officers in India that such clothing was much more comfortable than the white in hot weather. The test clothing was distributed to half the men in each company, the other half wearing white garments of like texture as a control. In all 500 men wore the orange-red underwear, under similar conditions of physique, food and service, and careful records were kept of comparative amounts and nature of sickness among them, their feelings as to comfort or discomfort in the sun, their mental and bodily vigor, etc. The experiments continued for a year and a record of the weights and blood examinations were kept throughout this period. It was found that the record of sick admissions was about the same for both groups, they suffered equally from the heat of the sun, but those of the orange-red group suffered more from excessive perspiration, there was a greater loss of weight in the hot season by nearly a pound per man, and the blood changes noted in tropical climates—increase of red cells and loss of hemoglobin—were more pronounced. The blood pressure also showed a greater loss and the temperature, pulse and respiration showed a slightly higher rate for this group. The admissions for heat exhaustion and febricula were not reduced by the orange-red underclothing and the symptoms due to heat were about the same in the two groups. Only sixteen men out of the five hundred preferred the colored underclothing, and the persistent complaints of greater heat, greater weight and excessive perspiration indicated that the colored garments are more receptive to the heat rays than the white. The conclusion of the board conducting the experiment was that the orange-red clothing added materially to the burden of heat on the system; that while it protected from the chemical ray, the influence of this ray is negligible and it is sufficiently excluded by khaki clothing and the campaign hat, and that no beneficial effect was observed from this clothing.

Medical News

CALIFORNIA

Violates Medical Law.—Chow Juyan, a Chinaman, was fined $100 by Police Judge Deasy, San Francisco, May 5, with the alternative of fifty days' imprisonment in jail for practicing medicine without a license.

Children's Clinic Opened.—A free clinic has been opened by the Pasadena Hospital for children of the Pasadena schools. The clinic, while free to those who cannot pay, will be supported in part by contributions.

Fraternity Election.—At the annual election of the Delta Chapter of the Phi Rho Sigma Fraternity, College of Medicine of the University of Southern California, Los Angeles, held April 29, the following officers were elected: President, Dr. Milbank Johnson, Los Angeles; vice-presidents, Drs. Andrew S. Lobingier, Los Angeles, and Rexwald Brown, Santa Barbara, and secretary-treasurer, Dr. W. R. Maloney.

ILLINOIS

Fined for Violating Medical Practice Act.—Mrs. Ernestine Petersen, matron of the so-called Red Cross Sanitarium, Rock Island, on May 4, is said to have been fined $100 and costs on each of ten charges of violating the medical practice act of Illinois.

Personal.—Dr. William W. Williams has been elected president and Dr. Kirk S. Shawgo, secretary of the staff of the Blessing hospital, Quincy.——Dr. Edward Bowe has severed his connection with the Maplewood Sanatorium, Jacksonville.——Dr. Orlando F. Scott has been appointed health officer of Summit and Argo.

Court Doings.—In the case of Dr. St. Elmo M. Sala, Rock Island, against Charles E. Dempsey, a verdict was returned for the plaintiff May 17, with damages of $112. This case is interesting as the defendant had previously brought suit for $10,000 for malpractice and was non-suited. The litigation has continued for about five years.——In the case of Dr. Paschall N. Bowman, Gillespie, charged with manslaughter by the alleged unskilful performance of an operation, the jury was unable to agree and was discharged.

Society Meetings.—At the annual meeting of Brainerd District Medical Society, held in Lincoln April 28, the following officers were elected: President, Dr. Harry G. Hardt, Lincoln; vice-presidents, Drs. Charles W. Carter, Clinton; Chauncey W. Cargill, Mason City, and Edwin P. Sloan, Bloomington; secretary, Dr. Harry S. Oyler, Lincoln; treasurer, Dr. Chas. C. Reed, Lincoln, and censors, Drs. Irving Newcomer, Petersburg; James H. Butler, Hartsburg, and Albert E. Campbell, Clinton. The next meeting will be held in Springfield in July.——The thirty-sixth annual meeting of the Central Illinois District Medical Society was held in Pana April 26. The following officers were elected: President, Dr. Roscoe C. Danford, Pana; vice-presidents, Drs. George J. Rivard, Assumption, and William H. Sparling, Moweaqua; secretary, Dr. Walter Burgess, Pana, and treasurer, Dr. John N. Nelms, Taylorville; censors, Drs. Jacob Huber, Louis H. Miller, and Frederick J. Eberspacher, Pana; Dr. William J. Eddy, Shelbyville, and Dr. Dorwin D. Barr, Taylorville.

Chicago

Fined for Misbranding.—Mrs. Gervaise Graham is reported to have been fined twenty-five dollars by Judge Landis, May 16, for misbranding a dandruff cure. The wrapper bore a printed statement that a cure was guaranteed but the government declared that it is not possible to guarantee a cure for this condition of the scalp.

Byron Robinson Memorial Services.—Memorial services in honor of the memory of the late Dr. Byron Robinson were held at Whitney Opera House, May 22. President Charles R. Van Hise of the University of Wisconsin presided and Dr. William A. Evans gave an address on the life and work of Dr. Robinson.

Personal.—Dr. and Mrs. David Fiske and Dr. C. Bruce Walls and family have started for Europe.——Dr. Nils Theodore Quales has been awarded, by King Haakon of Norway, the order of St. Olaf.——Dr. Magnus-Levy, Berlin, who is staying in Chicago for a few days on his way West, was tendered a dinner at the University Club, May 23, by a few of his medical friends.

IOWA

Fined for Illegal Practice.—George Corwin, Brooklyn, a so-called chiropractic, charged with the illegal practice of medicine, is said to have been found guilty, April 1, and fined $300 and costs.

Hospital News.—The new addition to Graham Hospital, Keokuk, which will cost $15,000, will be completed and ready to receive patients July 1.——Waterloo is to have a new hospital in charge of the Franciscan Sisters. The building will be under construction this summer and will be ready for occupancy in July next year. The institution will be four stories in height, of fire-proof construction, and will accommodate 98 patients.

KANSAS

Hospital for Wellington.—The Commercial Club and soliciting committee for a hospital for Wellington obtained subscriptions of $10,000 in seven days. Of this, physicians of Sumner county subscribed $3,000. The hospital is to be in care of Bishop Frank Milspaugh.

Fine Increased After Appeal.—James Black, a negro who was recently fined $200 and given a sentence of sixty days in jail by the police judge in Kansas City for selling cocain, and appealed his case to the district court, had a rehearing, May 2, and was fined $300 and given a sentence of ninety days' imprisonment in jail.

KENTUCKY

School Children's Teeth Examined.—By authority of the health department and health officer of Louisville, the teeth of every school child of the city is to be examined. The actual work will be done by members of the Jefferson County Dental Association.

Decided Against Physician.—The suit of Miss Laura Crews, Lexington, against Dr. Benjamin F. Van Meter, is said to have been decided in favor of the plaintiff, with damages of $4,000. The suit was for $25,000 and alleged the unskilful performance of a surgical operation without the consent of the patient. On hearing of the verdict the Fayette County Medical Society at once adopted a resolution of confidence in Dr. Van Meter.

Society Meetings.—Warren County Medical Society, at its meeting in Bowling Green, adopted resolutions extending a vote of thanks to the representatives and senator for their assistance in passing the Health Bill through the last legislature, and approving the Owen Bill.——Bullitt County Medical Society held its annual meeting in Shepherdsville April 11, and elected Dr. Walter W. Hill, South Park, president; Dr. Samuel W. Bates, Shepherdsville, vice-president, and Dr. A. Capiston Overall, Mount Washington, secretary-treasurer.——Muhlenberg County Medical Society, at its annual meeting in Central City, April 28, elected the following officers: President, Dr. John P. Walton, Central City; vice-president, Dr. Henry Y. Slaton, Greenville; delegate to the state medical society, Dr. Milton P. Creel, Central City, and alternate, Dr. Thomas G. Turner, Dunmor.——Muldraugh County Medical Society, at its annual session, April 14, adopted resolutions favoring the creation of a national department of health.

LOUISIANA

Auto Ambulance.—A new automobile ambulance, donated to the Charity Hospital, New Orleans, by the members of Mecca Temple Ancient Order of the Nobles of the Mystic Shrine, New York City, at a cost of $9,000, was received from New York, April 11, and was at once put into commission.

Personal.—Dr. Charles J. Landfried has been appointed surgeon in charge in the ear, nose and throat department of the Eye, Ear, Nose and Throat Hospital, New Orleans, to succeed Dr. Oscar Dowling, Shreveport, who was recently elected but resigned.——Dr. C. Milo Brady, New Orleans, has returned after several months spent in the study of tropical diseases on the West Coast of Africa.——Dr. and Mrs. Louis A. Meraux, New Orleans, left for Europe May 14.

Society Meeting.—At the annual meeting of East Feliciana Parish Medical Society, held at the Insane Hospital of the State of Louisiana, Jackson, April 6, the following officers were elected: President, Dr. Jesse W. Lee, Jackson; vice-president, Dr. William F. H. Hagaman, Norwood; and secretary-treasurer, Dr. Robert P. Jones, Clinton. By unanimous vote, the society dropped from its rolls Dr. Emmett C. McKowen, Clinton, who is said recently to have been found guilty of murder in connection with the death of a patient in the insane hospital.——Claiborne Parish Medical Society, at its annual meeting in Athens, April 27, reelected the following officers: President, Dr. Joseph W. Day, Homer; vice-presidents, Drs.

Phillip Gibson, Homer, Lee T. Waller, Haynesville, and James F. Simpson, Athens; secretary-treasurer, Dr. William L. Stone, Homer, and delegate to the state society, Dr. Lee T. Waller.

MAINE

Off for Europe.—Drs. Oliver W. Turner, Albert H. Sturtevant, Wellington Johnson, William H. Harris and George R. Campbell, Augusta, Dr. Lewis K. Austin, Waterville, and Dr. and Mrs. John G. Gehring, Bethel, have started for Europe.

Hospital Staff Elected.—The trustees of the Webber Hospital, Biddeford, have elected the following staff: Surgery—Drs. M. Hubbard Ferguson and Caleb J. Emery, Biddeford, and Jasper D. Cochrane and Clarence E. Thompson, Saco; medicine—Drs. Augustus Thayer, Addison S. Thayer and Charles B. Witherle, Portland, and Dr. Samuel J. Bassford; eye and ear—Drs. John W. Bowers, Dexter J. Clough, Erastus E. Holt, Willis B. Moulton, Albion H. Little and William Moran, Portland, and Dr. Charles M. Sleeper, South Berwick; nose and throat—Drs. John H. Allen and Owen P. Smith, Portland; and obstetrician—Dr. Stanley P. Warren, Portland. The consulting staff includes Drs. F. S. Warren, Biddeford, James O. McCorrison, North Berwick, John L. M. Willis, Eliot, Frank M. Ross, Kennebunk, Harry L. Prescott, Kennebunkport, Joseph W. Gordon, Ogonquit, Jesse A. Randall, Old Orchard, Charles W. Blagden, Sanford, Fred A. Bragdon, Springvale, and Drs. Edville G. Abbott, William H. Bradford, Henry H. Brock, William L. Cousins, Fred H. Gerrish, Arthur S. Gilson, Seth C. Gordon, Alfred King, Charles M. Leighton, Alfred Mitchell, Jr., Willis B. Moulton, Richard D. Small, John F. Thompson, Philip P. Thompson, Walter E. Tobie and Herbert F. Twitchell, Portland.

MASSACHUSETTS

Carnation Day at Lynn.—May 14 was observed in Lynn as "carnation day" and 30,000 carnations were sold for the benefit of the State Tuberculosis Camp, Swampscott.

Personal.—Dr. Frank H. Zabriskie has resigned as a member of the board of health of Greenfield.——By the will of Mrs. Annie Preston Lincoln, Boston, Dr. Edward B. Kellogg is bequeathed $25,000.——Dr. Ralph B. Ober, Springfield, is reported convalescent from the effects of septicemia due to a postmortem wound.

Tuberculosis Camp Opened.—The camp of the Springfield Association for the Prevention of Tuberculosis was opened for the summer at East Longmeadow, May 12, with six patients in attendance. The present capacity of the camp is twenty-two.

MISSISSIPPI

Personal.—Dr. Thomas J. Mitchell, for many years superintendent of the State Insane Hospital, Asylum, has resigned and will practice in Jackson.——Dr. Waller S. Leathers has been appointed director of public health and sanitation of the state board of health and chief bacteriologist of the state laboratory to be established in Jackson.

Hospital Appropriation Bill Passed.—Among the principal appropriation bills passed by the legislature is one appropriating $50,000 for the erection and equipment of a Central State Charity Hospital at Jackson. The bill contains a provision that the city of Jackson and Hinds county shall contribute $25,000 toward the building and equipment fund.

MONTANA

Ricketts' Memorial Prize.—At the closing session of the Montana State Medical Association, a resolution was adopted providing for a memorial medal, in honor of Dr. Howard Taylor Ricketts, to be given to the member presenting the best paper before the society at its annual session.

NEBRASKA

Graduation Exercises.—The College of Medicine of the University of Nebraska held its annual commencement exercises May 19, and graduated a class of seventeen. Robert H. Walcott, dean of the college, presided, and the doctorate address was delivered by Dr. Woods Hutchinson, New York City.——At the annual commencement exercises of the John A. Creighton Medical College, Omaha, April 30, forty-four were graduated from the medical department. Dean A. Hugh Hipple presided over the program of the evening.

State Association Meeting.—The forty-second annual meeting of the Nebraska State Medical Association was held in Lincoln, May 10-12, under the presidency of Dr. P. Harold Salter, Norfolk. The following officers were elected: President, Dr. John P. Lord, Omaha; vice-presidents, Drs. Harry M. Hepperlein, Beatrice, and Charles A. Anderson, Stromsburg; councilors, Drs. Anders P. Ovargaard, Fremont, John C. Malster, Stromsburg, Fletcher A. Butler, Harvard, John P. Gilligan, O'Neill, and Henry B. Lemere, Omaha; delegates to the American Medical Association, Dr. P. Harold Salter, Norfolk, and alternate, Dr. William J. Birkhofer, Goethenburg. The House of Delegates instructed the secretary to telegraph Senator Owen commending his efforts to secure the establishment of a national department of health. The society adjourned to meet next year in Omaha.

NEW HAMPSHIRE

State Society Meeting.—The New Hampshire Medical Society held its one hundred and nineteenth annual session in Concord, May 12 and 13, under the presidency of Dr. Frank Blaisdell, Goffstown. The following officers were elected and installed: President, Dr. Alonzo S. Wallace, Nashua; vice-president, Dr. George W. McGregor, Littleton; secretary (for five years), Dr. Pearl T. Haskell, Concord; councilor for Hillsboro county, Dr. E. Blaylock Atherton, Nashua; trustees, Drs. John M. Gile, Hanover, and John W. Parsons, Portsmouth; medical examiner, Dr. Arthur C. Heffinger, Portsmouth; alternate, Dr. Abram W. Mitchell, Epping; delegate to the American Medical Association, Dr. Ferdinand A. Stillings, Concord; alternate, Dr. John Z. Shedd, North Conway; delegates to state societies, Drs. J. W. Bates, Rochester, to the Maine Medical Association, Dr. Charles A. Morse, Newmarket, to the Massachusetts Medical Society, Drs. Arthur F. Sumner and George C. Wilkins, Manchester, to the Vermont State Medical Society, Dr. William H. Leith, Lancaster, and Ira J. Prouty, Keene, to the Medical Society of the State of New York, and Drs. Edgar O. Crossman, Lisbon, and John M. Gile, Hanover, to the Rhode Island Medical Society; necrologist, Dr. Eli E. Graves, Boscowen, and anniversary chairman, Dr. Charles S. Little, Laconia.

NEW JERSEY

Personal.—Dr. Patrick A. Shannon, New Brunswick, returned from Europe May 8.——Dr. William S. MacLaren has been appointed medical instructor in the public schools of Princeton Borough and Dr. Arthur K. MacDonald in the public schools of Princeton and Lawrence townships.

Society Meetings.—The annual meeting of the Medical Society of Hunterdon County was held in Flemington, April 26, and the following officers were elected: President, Dr. George Henry, Flemington; vice-presidents, Drs. Isador Topkins, Califon, and Henry H. Miller, Lebanon; secretary, Dr. Obadiah H. Sproul, Flemington; treasurer, Dr. Isaac S. Cramer, Flemington; and censors, Drs. George L. Romine, Lambertville; George N. Best, Rosemont, and Leon T. Salmon, Lambertville.——At the annual meeting of Salem County Medical Society, held in Salem May 5, the following officers were elected: Dr. George W. Fitch, Daretown, president; Dr. Henry T. Johnson, Pedricktown, vice-president; Dr. Henry Chavanne, Salem, secretary-treasurer; Dr. John F. Smith, Salem, reporter, and Drs. Emerson P. McGeorge, Woodstown; William H. James, Pennsville, and Richard M. Davis, Salem, censors.——The Society for the Relief of Widows and Orphans of Medical Men of New Jersey held its twenty-eighth annual meeting May 11, in Newark, and elected the following officers: President, Dr. Charles J. Kipp, Newark; vice-president, Dr. Archibald Mercer, Newark; secretary, Dr. Charles D. Bennett, Newark; treasurer, Dr. George R. Kent, Newark; custodians of the permanent fund, Drs. Norton L. Wilson, Elizabeth, and Thomas W. Harvey, Orange; and trustees, Drs. James H. Rosenkrans, Hoboken, and Charles F. Underwood, and Edward Staehlin, Newark.

NEW YORK

No Tuberculosis Sanatorium at Liberty.—The State Commissioner of Health, after a careful consideration of the application of the Independent Order of Brith Abraham of the United States of America, for permission to establish a preventorium and camp for the treatment of tuberculosis in the town of Liberty, felt constrained to deny the same, and has so notified the petitioners.

Practice Training for Health Officers.—Opportunities for the practical training of health officers in the work of inspection, diagnosis, quarantine, disinfection, etc., actual work of the daily duties of the Quarantine Station, are offered to all the health officers of the state throughout the summer by the courtesy of Dr. Alvah H. Doty, Health Officer of the Port of New York. These facilities are available for six persons at a time.

Mail for the Insane.—Attorney General O'Malley has given an opinion which establishes the rights of idiots and lunatics in the state institutions to receive mail. He states that the officers of such an institution have no right to open mail addressed to inmates, but have the right and the authority to make rules and regulations, subject to the approval of the State Board of Charities, preventing the delivery of letters to such inmates, or to prevent letters being sent by them to outside persons, when, in their judgment, this might cause interference with the safe administration of the affairs of the institution.

Opposed to Metropolitan Life Company's Institution.—It has been announced that the residents of Somers, within whose limits the proposed site for the sanatorium for the treatment of employees of the Metropolitan Life Insurance Company having tuberculosis lies, will make a vigorous fight against the erection of the proposed institution in this locality. Edward Hatch, the chairman of the pollution committee of the Merchant's Association, states that he considers that the establishment of a sanatorium for the treatment of tuberculosis within the boundaries of the water shed that supplies the drinking water for New York City will endanger the lives of millions of people.

Bills Signed by Governor.—Governor Hughes has signed the following bills: A bill providing that the Mount Vernon Board of Health shall consist of the mayor and at least six other persons; the Green Bill, amending the liquor tax law by prohibiting liquor to be sold or even given away except on the written prescription of a physician, to any patient affected with tuberculosis in a camp, colony or hospital established by the state, county or municipal authorities, and a bill bringing the Mohansic State Hospital under the jurisdiction of the State Lunacy Commission and authorizing the commission to provide for the committment of patients from any part of New York to this institution.

Deciding the Milk Standard.—The Baumes bill, which provides that the standard of milk in the state shall be lowered by declaring only such milk adulterated as contains less than 11½ instead of less than 12 per cent. of milk solids, has been argued before Governor Hughes. Many milk producers defended this measure, but the health commissioner of New York City was opposed to the reduction of the standard as being against the public interest in New York City. He stated that lowering the standard to the degree mentioned would make it possible to water the milk supply of New York City to the extent of 75,000 quarts daily, which would mean a daily loss of $6,000 to the people of that city. The New York State Breeders' Association also sent a protest against a lowering of the standard.——A bill designed to permit the sale of skimmed milk cheese and skimmed milk powder in New York and Kings counties has been passed by the senate after considerable hesitation. This bill, if it becomes a law, will permit the manufacture of skimmed milk products in New York City. It is stated that Commissioner Pearson of the State Department of Agriculture has given the bill his approval.

New York City

Off for Europe.—Drs. Graeme M. Hammond, Daniel M. Stimson and Frank B. Cross have sailed for Europe.

New Laboratory.—Mr. Adolph Lewisohn has given $130,000 to Mount Sinai Hospital for the erection of a pathologic laboratory building.

Heavy Sentence for Cocain Seller.—Edward Lewis, a cocain seller who has been arrested four times and convicted twice, has been sentenced to two years in the penitentiary.

Fellowship Established.—Mount Sinai Hospital announces the establishment of a second fellowship in pathology, the income of which amounts to $500 per annum, to be known as the Eugene Meyer, Jr., fellowship.

Open Hospital at Coney Island.—The Coney Island Branch of the Kings County Hospital was opened on May 18. The building is thoroughly modern and will accommodate 100 patients. Dr. Charles Durning will be Superintendent.

Measles on Ocean Liner.—The Cunard steamer, *Carpathia*, from the Mediterranean, was detained at Quarantine, May 10, on account of the presence of measles which necessitated the transfer to Hoffman Island of 40 of the 325 children which were on board.

Resolutions Regarding Dr. Goelet.—At a meeting of the Tri-Professional Medical Society of New York, May 17, resolutions were adopted setting forth the careful, accurate and kindly work, the personal magnetism, the warm friendship and the love for truth, of its late member, Dr. Augustin H. Goelet.

New Building for Medical School Work.—Work has been commenced on the new hospital building for the New York Postgraduate Medical School. The building will be twelve stories in height and will cost $600,000. It will be provided with ample means for open-air treatment including a roof pavilion.

The New York Neurologic Institute.—This institution has just made public the report of its first year's work. During the year 220 cases of nervous disease were registered. The growth of the institution has fully demonstrated the necessity for a hospital and dispensary devoted to diseases of the mind and nervous system. When the hospital was opened it was thought that ample provision had been made for some time to come, but there is already need of more extensive accommodations.

Dulness and Bad Teeth.—Dr. Luther H. Gulick, director of the department of child hygiene of the Russell Sage Foundation, states that at least one-half of the school children have defective teeth and that children with defective teeth take half a year longer to complete the eight grades of the elementary course than children who have good teeth. Dr. Gulick has conducted studies on 40,000 school children in New York City during the past two years. He advises further instruction in the public schools regarding the teeth and their care.

New Buildings of Long Island College Hospital.—During the past ten years the old Long Island College Hospital has been removed piece by piece and replaced by new buildings. The last section of the old building is now being removed to make place for a new wing. The entire cost of the new building will be about $2,000,000. The section now under construction will contain about 200 beds for male patients and the new hydrotherapeutic and electrotherapeutic equipment. This hospital has its own incinerator for burning garbage and obtains its supply of water from its own wells.

Buffalo

Tuberculosis Camp Opened.—The tuberculosis day camp was opened for the reception of patients, May 25.

Alumni Meeting.—At the annual reunion of the Alumni Association of the University of Buffalo, May 24, Dr. J. Clarence Webster, Chicago, delivered the Harrington lecture and a dinner was tendered to Dr. Matthew D. Mann in recognition of his many years of faithful service as professor of obstetrics and gynecology.

Tuberculosis Work in Buffalo.—The first annual report of the Buffalo Association for the Relief and Control of Tuberculosis shows that the day camp was open 141 days. During this time 95 patients were admitted, of whom 38 were male and 57 females. The total number of treatment days was 5,545, and the average daily attendance 39.32. Of the cases treated 25 were incipient; 23, moderately advanced; 41, advanced; 2, surgical; and 4 patients came for observation. During the two years the dispensary has been open 1,140 cases have been examined, of which 339 were definite cases of tuberculosis; 89 were doubtful; in 29 there were tubercular lesions other than of the lungs, and 683 patients, or nearly 60 per cent. were non-tubercular.

NORTH DAKOTA

Hospital for Minot.—At a meeting recently held in Minot, $9,000 was pledged for a Benedictine Sisters Hospital to cost about $70,000.

Health League.—A public health league was organized at Minot, April 30. Dr. Gustave F. Ruediger, Grand Forks, director of the state public health laboratory, delivered an address, at the conclusion of which the league was organized, with Dr. Andrew Carr, Minot, as vice-president.

Society Meetings.—At the annual meeting of the Traill and Steele County Medical Society, held in Portland, Dr. William E. White, Mayville, was elected president; Dr. Annt G. Anderson, Hillsboro, vice-president; Dr. Daniel E. Rogers, Portland, secretary-treasurer, and Dr. Edward C. Haagensen, Hillsboro, delegate to the state society.——A medical association for Burleigh county has been organized at Bismarck.

OKLAHOMA

Law Cases.—The jury acquitted Dr. Thomas E. Shepherd, Tulsa, who was charged with manslaughter.——Dr. Leander A. Riely, Oklahoma City, was sued for $5,000 for alleged failure to locate a broken bone in the leg and the verdict is reported to have been for $750.

Public Health Officials Meet.—The meeting of the Oklahoma Public Health Association was held in Tulsa May 10-12. Dr. Herbert L. Wright, Hugo, was elected president; Dr. Charles L.

Reeder, Tulsa, vice-president, and Willis A. Logan, Lehigh, secretary-treasurer. Before the close of the meeting, Dr. John C. Mahr, Shawnee, state commissioner of health, was presented by the members of the association with a diamond ring in appreciation of his work in behalf of the health of the state.

PENNSYLVANIA

Philadelphia

Honor Retiring Professor.—Dr. James Tyson who has recently retired from the teaching staff of the medical school of the University of Pennsylvania, was presented with a silver loving-cup and a silver platter by his senior and junior students, May 13.

Cocain Dealer Pleads Guilty.—Abraham Hall, a colored man, is said to have pleaded guilty in Quarter Sessions Court, April 26, to the charge of the unlawful sale of cocain and to have been sentenced to imprisonment in the eastern penitentiary for not less than six months nor more than two years, and to a fine of $500.

Resolutions Regarding Dr. Ricketts.—At a meeting of the College of Physicians of Philadelphia, May 13, resolutions were adopted setting forth the heavy blow sustained by medical science and the public welfare in the death of Dr. Howard Taylor Ricketts, briefly noting the research work done by Dr. Ricketts regarding blastomycosis, immunity, Rocky Mountain spotted fever and typhus fever; bearing witness to his remarkable qualities of intellect and personal qualities, and closing with the statement, "Thus this man died, leaving his death for an example of noble courage and a memorial of virtue, not only to young men but unto all his nation."

Labor Union to Fight Tuberculosis.—The Central Labor Union held a meeting on May 18, for the discussion of plans to be adopted in its proposed fight against tuberculosis. The meeting was arranged by J. Byron Deacon, secretary of the Society for the Prevention of Tuberculosis. Dr. James Tyson presided and addresses were made by Rev. George C. Richmond, rector of St. John's Episcopal Church, and P. V. Danshay, of Albany, a member of New York State Immigration Commission, director of the labor department of the New York State Charity Aid. It is proposed to establish a big double camp for day and night uses, where patients may go regularly for fresh air, milk and eggs, and three meals with nurses and physicians in attendance. In the day camp the patients would live in the open, going home to sleep at night. It would be part of the duty of the nurses to go to the homes, giving instructions there for open air sleeping. A night camp would be established for those workingmen who had been cured or who had the disease arrested and were able to return to the city to work.

SOUTH DAKOTA

Hospital Organized.—The German Baptist Hospital for the Dakotas was organized in Emery recently, and Dr. Carl A. Homan was elected chief surgeon.

Sanatorium Site Selected.—The State Board of Correction and Charities have selected the Hand Ranch, four miles south of Custer, as the most desirable location for the new tuberculosis sanatorium, for the erection of which the last legislature made an appropriation of $10,000. The ranch consists of 160 acres, of which 70 are in cultivation.

Personal.—Dr. F. A. Van Buren, Edgemont, has been appointed local surgeon for the Burlington System.——Dr. G. Hayward Coburn, Deadwood, was given a farewell banquet by the Black Hills Medical Society on the occasion of his approaching departure for Chicago.——Dr. Francis A. Moore, Lesterville, has gone to New York City for a year of postgraduate work.

Railway Surgeons Convene.—Surgeons representing the Chicago, Milwaukee & St. Paul and Chicago & Northwestern railroads held their annual meeting in Rapid City, May 11, and elected the following officers: Dr. William E. Moore, Tyndall, president; Dr. Delorme W. Robinson, Pierre, vice-president; Dr. John L. Foxton, Huron, secretary-treasurer, and Drs. C. W. Hargens, Hot Springs, William R. Ball, Mitchell, and Hiram E. McNutt, Aberdeen, executive committee.

TENNESSEE

Personal.—Dr. William Hardy, a recent graduate of the Medical Department of Tennessee University, Nashville, has been ordained as a missionary, and will sail from San Francisco to his new field of work in Batang, Thibet, May 24.

New County Society.—The McNairy County Medical Society was organized at Selmer, April 21, and the following officers were elected: President, Dr. William H. Hodges, McNairy; vice-president, Dr. James L. Smith, Selmer; secretary, Dr. W. T. Bell, Selmer; and treasurer, Dr. J. R. Smith, Selmer.

State Association Election.—At the annual meeting of the Tennessee State Medical Association held in Memphis, May 12 to 15, Dr. John A. Witherspoon, Nashville, was elected president and Drs. Richard A. Barr, Nashville, Joseph J. Waller, Oliver Springs, and J. H. Eugene Rosamond, Memphis, were elected vice-presidents.

TEXAS

Medical Directors Meet.—The Texas Association of Medical Directors held its first annual session in Dallas May 10. Dr. John H. Florence, Houston, was elected president; Dr. John S. Lankford, San Antonio, vice-president, and Dr. Mathew M. Smith, Dallas, secretary-treasurer. The membership includes both medical directors of both old-line life and fraternal insurance companies.

Alumni Associations Organized.—At a meeting held in Dallas, May 11, Memphis Hospital Medical College Alumni Association for Texas was organized with the following officers: President, Dr. R. Walter Smith, Moffat; vice-president, Dr. Samuel A. Woodward, Fort Worth, and secretary-treasurer, Dr. Andrew B. Small, Dallas.——The Texas Alumni of the University of Pennsylvania organized an association at Dallas, May 11, and elected Dr. Jacob M. Frazier, Belton, president, and Dr. Marion P. Stone, Dallas, secretary.——Graduates of medical colleges of Louisville, Ky., practicing in Texas, met at Dallas, May 11, and organized an alumni association with an initial membership of fifty. The following officers were elected: Dr. James R. Lancaster, Granbury, president; Drs. William C. Crutcher, Mount Vernon, and Samuel E. Milliken, Dallas, vice-presidents; and Dr. Albert M. Gantt, Dallas, secretary.

Society Meetings.—Walker County Medical Association was organized in Huntsville, May 6, with an initial membership of seven. Dr. William E. Fowler, Huntsville, was elected president, and Dr. Leonard H. Bush, Huntsville, secretary-treasurer.——At the annual meeting of Burleson County Medical Society, held in Caldwell, April 27, Dr. James P. Oliver was elected president and delegate to the state association; Dr. Joseph W. Matthews, vice-president, and Dr. Oscar Krueger, secretary-treasurer, all of Caldwell.——At the meeting of Brazoria County Medical Society, April 24, the following officers were elected: President, Dr. Samuel B. Maxey, Angleton; vice-president, Dr. C. C. Hampil, Perry Landing, and secretary-treasurer, Dr. D. C. DeWalt. The society starts out with a membership of twelve.——The physicians of Fort Bend County met in Richmond recently and organized a county medical association, and elected the following officers: Dr. James C. Johnson, Richmond, president; Dr. J. B. Turner, secretary-treasurer, and Dr. J. Mark O'Farrell, Richmond, delegate to the state association.——At the annual meeting of Webb County Medical Society, held in Laredo, May 5, Dr. Edward H. Sauvignet was elected president; Dr. Henry J. Hamilton, secretary-treasurer, and Dr. Albert W. Wilcox, delegate to the state association, all of Laredo.

VIRGINIA

Personal.—Dr. William W. Murray, Suffolk, has been appointed local surgeon for the Southern Railway.——Dr. John Augustine English Eyster, University, has accepted the chair of physiology in the University of Wisconsin.——Dr. Thomas J. Hughes, Saltville, has returned from Europe and located in Roanoke.

Commencement Exercises.—The Medical College of Richmond, Va., celebrated its annual exercises, May 18. Dr. Lyon G. Taylor, president of William and Mary College, delivered the doctorate oration and Dr. Simon Baruch, New York City, delivered the address before the alumni on "Some Therapeutic Lessons from Half a Century's Practice." A class of forty-six was graduated.——University College of Medicine, Richmond, held its annual commencement exercises May 17. Addresses were delivered by Major C. Hemphill, editor of the Richmond *Times-Despatch*, and the president of the college, Dr. Stuart McGuire. A class of 25 was graduated.

Society Election.—The semi-annual meeting of the Northern Neck Medical Association was held in Heathsville, April 28, and the following officers were reelected: President, Dr. Andrew C. Fisher, Emmerton; vice-presidents, Drs. C. T. Pierce and Loren E. Cockrell, Redville; secretary, Dr. Robert O. Lyell, Warsaw, and treasurer, Dr. Walter N. Chinn, Hague.——At the annual meeting of Alexandria Medical Society, Dr. Samuel B. Moore was elected president; Dr. Robert L. Wilkins, secretary, and Dr. Llewellyn Powell, treasurer.——The physicians of Alleghany County met in Clifton Forge, May 3, and organ-

ized a county medical society, with initial membership of ten. Dr. John C. Wysor, Clifton Forge, was elected president; Dr. Orville L. Rogers, Covington, vice-president; Dr. Courtney Edmond, Clifton Forge, secretary, and Dr. John W. Wallace, Covington, treasurer.

WASHINGTON

Used Mail to Defraud.—For using the mail in connection with a scheme to defraud, the managers of the Davis Medical Institute, Spokane, are said to have been sentenced to thirty days' imprisonment in jail and to pay a fine of $500.

Illegal Practitioners Arrested.—Detectives in the employ of the State Medical Board, operating under the direction of the prosecuting attorney of Seattle, have arrested eight alleged illegal practitioners of medicine, chiropody and osteopathy, including two Chinamen.

New Hospitals.—The cornerstone of the new buildings for the Providence Hospital, Seattle, was laid with appropriate ceremonies, May 1. Since the hospital was organized in 1878, more than 65,000 patients have been cared for by the institution.——The contract for the new two-story annex to the Pierce County Hospital, Tacoma, has been awarded. The building will cost about $4,000.

GENERAL NEWS AND COMMENT

Pension for Yellow Fever Victim.—As a reward for his services in the study of yellow fever, John Kissinger of Indiana, formerly private in the U. S. Army, was granted an annuity of $1,500 by the United States Senate.

Laryngologic Officers.—The secretary of the American Laryngological, Rhinological, and Otological Society writes that the Dr. Dudley noted in THE JOURNAL, May 14, as one of the vice-presidents-elect should be Dr. William H. Dudley, Los Angeles, Cal., and not William F. Dudley, Brooklyn.

Meeting of Railway Surgeons.—The third annual convention of the Association of the Norfolk and Western Railway was held in Norfolk, Va., May 4. Dr. Southgate Leight, Norfolk, was elected president; Dr. Sparrell S. Gale, Roanoke, first vice-president, and Dr. John R. Garrett, Roanoke, secretary-treasurer.

The Exceptional Child.—The National Association for the Study and Education of Exceptional Children held its first annual conference at New York University, April 21 and 22, under the presidency of Thomas H. Balliet, Ph.D., dean of the New York University School of Pedagogy. The session topics were "The Recognition of the Problem of the Exceptional Child," "Phases of Exceptional Development," and "The Perspective of the Problem of the Exceptional Child."

Confederate Surgeons Hold Meeting.—The thirteenth annual meeting of the Association of Medical Officers of the Army and Navy of the Confederacy was held in Mobile, April 26 and 27, under the presidency of Dr. Gustavus B. Thornton, Memphis, Tenn. Dr. Edwin D. Newton, Atlanta, was elected president, and Dr. A. A. Lyon was reelected secretary-treasurer.

American Museum of Safety.—The American Museum of Safety has opened permanent museum headquarters in New York, for demonstrations under power of safety devices to prevent industrial accidents. The museum is for the benefit of employers of labor in factories and industrial establishments and for the public generally, as a means of education in the matter of accident prevention. Approximately, 500,000 persons were killed or maimed in industrial pursuits in the United States during 1909, and 50 per cent. of these accidents undoubtedly were preventable. In a large steel plant employing 6,000 men, there were 40 fatalities in 1906. After installing safety devices there were only 12 fatalities in 1909 in the same establishment which then employed 7,000 men. The American Museum of Safety is an organization doing a practical humanitarian work and should be supported in every way.

Meeting of Far Eastern Association of Tropical Medicine.—The first biennial meeting of the Far Eastern Association of Tropical Medicine was held in Manila beginning March 5. Delegates were present from governments and medical organizations from nearly every country and colony of the Far East—the Indias, Ceylon, China, Japan, New Zealand, and from the Philippine Islands. The association held eight sessions and continued until March 14. The convention was a successful one, and the *Bulletin of the Manila Medical Society*, says that never before have so many representative men from so many political entities gathered in conference in the tropics for the purpose of discussing the sanitary prob'ems peculiar to warm climates. Heretofore such large and important meetings have been held in temperate climates away from the environment where the practical side of the questions under discussion could not be made part of the proceedings. Dr. Paul C. Freer, Manila, was president of the association.

Alumni Entertainments at St. Louis.—The following is a partial list of alumni gatherings to be held June 7, 1910, during the session of the American Medical Association at St. Louis. Alumni are asked to record their names, either at the Coliseum or at the Southern Hotel or elsewhere, as specified below, between 9 a. m. and 5 p. m., on Tuesday, June 7. The recording at the Southern Hotel will be at a desk, which will be easily found in the lobby.

BARNES UNIVERSITY, MEDICAL DEPARTMENT.—Registration at Southern Hotel lobby. Seventeenth annual banquet at Planters Hotel, 8 p. m.

COLLEGE OF PHYSICIANS AND SURGEONS (COLUMBIA UNIVERSITY, NEW YORK).—Registration at Southern Hotel lobby. Reunion Tuesday. Particulars to be announced.

HARVARD UNIVERSITY MEDICAL SCHOOL.—Registration at Southern Hotel lobby. Dinner at the University Club, 7:30 p. m., June 7.

JEFFERSON MEDICAL COLLEGE.—Registration at Southern Hotel lobby. Banquet to be announced later. Information at registration desk or communicate with Dr. A. P. Munsch, 1259 Kingshighway, St. Louis.

NORTHWESTERN UNIVERSITY, SCHOOLS OF MEDICINE, DENTISTRY AND PHARMACY.—Registration at exhibit in Coliseum, 9 a. m. to 5 p. m., Tuesday, June 7. Banquet at Planters' Hotel, 7:30 p. m. Tickets for banquet at registration desk, or communicate with Dr. William Engelbach, Humboldt Building, St. Louis.

RUSH MEDICAL COLLEGE.—Registration at Southern Hotel lobby. Dinner to be announced.

ST. LOUIS UNIVERSITY MEDICAL DEPARTMENT.—Registration at exhibit in the Coliseum, 9 a. m. to 5 p. m., Tuesday, June 7. Banquet at Jefferson Hotel at 8 p. m. Tickets at registration desk, or communicate with Dr. P. H. Swahlen, Metroplitan Building, St. Louis.

TULANE MEDICAL SCHOOL.—Registration at Southern Hotel lobby. Banquet at Jefferson Hotel, 7:30 p. m. Tickets for banquet at registration desk or communicate with Dr. H. J. Scherck, Century Building, St. Louis.

UNIVERSITY OF NASHVILLE AND TENNESSEE.—Headquarters and registration, Rooms 80, 82 and 84, Southern Hotel, 9 a. m. to 5 p. m., Tuesday, June 7. Dinner to be announced.

UNIVERSITY OF MICHIGAN.—Registration at Southern Hotel lobby. Reunion planned.

VANDERBILT UNIVERSITY MEDICAL DEPARTMENT.—Headquarters and registration at the American Hotel, Seventh and Market streets. Reunion and banquet at American Hotel, 7 p. m..

WASHINGTON UNIVERSITY MEDICAL DEPARTMENT.—Registration at Southern Hotel lobby. Smoker for alumni, including Missouri Medical College and St. Louis Medical College, Tuesday, June 7, place to be announced.

CANADA

School of Anatomy Incorporated.—The Hamilton School of Anatomy has been incorporated by Drs. Ingersoll Olmsted, Archibald E. Mallach, and Alexander B. Osborne.

Unlicensed Practitioner Fined.—R. G. Galbraith, Spring Creek, Sask., is reported to have been found guilty of practicing medicine without a license and fined $50 and costs. The prosecution was undertaken by the College of Physicians and Surgeons of Saskatchewan.

Roddick Bill Held Over.—At the recent session of the federal parliament nothing was done toward amending the Canada Medical Act, known as the Roddick Bill. Action is said to have been deferred on account of solicitations from the medical council of British Columbia.

Medical Graduates Receive Diplomas.—At the commencement exercises of the Western Medical School, London, May 2, diplomas and medals were distributed to the graduating class by Dr. Robert Ferguson. Dr. Walter H. Moorhouse presided at the convocation.

Society Meeting.—At the annual meeting of the Ottawa Medical and Chirurgical Society, April 1, Sir James A. Grant, M.D., was elected honorary president; Dr. Thomas Gibson, president; Dr. Clarence H. Brown, first vice-president; Dr. John D. Courtenay, second vice-president; Dr. F. W. C. Mohr, secretary; Dr. Arthur S. McElroy, treasurer; Dr. Robert Law, librarian, and Dr. Warren S. Lyman, curator.

Dominion and Province Societies to Meet.—The forty-third annual meeting of the Canada Medical Association will be held in Toronto, June 1-4, under the presidency of Dr. Adam H. Wright, Toronto. The entertainment provided includes a smoking concert, and excursions to Niagara Falls and Guelph. ——The Manitoba Medical Association will hold its annual meeting in Winnipeg May 26 and 27.——The annual meeting of the British Columbia Medical Association will be held in Vancouver, August 16 and 17, under the presidency of Dr. R. W. Irving, Kamloups.

Personal.—Dr. Charles F. Martin, Montreal, has returned from the Mediterranean.——Dr. John W. Stirling, Montreal, has returned from Europe.——Dr. John T. Fotheringham,

Toronto, has returned from a trip to Jamaica.——Dr. Frederick A. Clarkson, Toronto, has gone to Germany for the summer.——Dr. George R. McDonagh has returned from the south of France.——Dr. E. A. McCullough, Toronto, has been appointed superintendent of the Sanatorium for Tuberculosis at London, Ont.——Dr. Albert A. McDonald has been elected president, and Dr. W. Harley Smith, secretary of the Academy of Medicine, Toronto.——Dr. Wesley Mills, professor of physiology in McGill University, has resigned.

Reunion of McGill Graduates.—The opening of the new medical buildings for McGill University, June 6 and 7, will be a notable event as more than 500 graduates from all parts of the world are expected to congregate in honor of their alma mater. On the first day an informal luncheon will be given at McGill Union by the teaching staff of the university; in the afternoon, the convocation will be held; in the evening the new building will be opened, and a conversazione will be given by the governors of the university. On the second day, clinics and demonstrations will be given in the morning and afternoon in hospitals and laboratories; class reunions will be held and a banquet will be given in the evening by the members of the faculty of the medical department to the alumni.

FOREIGN

Memorial Meeting for Pflüger in St. Petersburg.—A special meeting of the national medical Russian association was held recently at St. Petersburg in memory of the late Professor Pflüger of Bonn, the physiologist. The address was made by Professor Pawlow.

Wölfler Festschrift.—The pupils and friends of Professor Wölfler of Prague presented him last month with a *Festschrift* in the form of a special volume of the *Beiträge zur klinischen Chirurgie* containing the works of his pupils. The occasion was his sixtieth birthday and the twenty-fifth anniversary of his incumbency of the chair of surgery.

Circulation of German Medical Weeklies.—Some interesting data are found in the current number of the Press Directory issued by a leading advertising agency in Germany. It states that there are 352 periodicals published in Germany, Austria and Switzerland on the medical and allied sciences. The *Münchener medizinische Wochenschrift* heads the list of German medical journals with a certified circulation of 12,000 copies. This is followed by the *Deutsche med. Wochenschrift* with a circulation of 9,500, the *Medizinische Klinik* with circulation of 9,000, and the *Berliner klinische Wochenschrift* with a circulation of 4,000. In Austria the *Wiener medizinische Wochenschrift* has a circulation of 3,000, and the *Wiener klinische Wochenschrift*, a circulation of 2,400. The total circulation of these six great weeklies is thus stated to be 39,900.

LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, May 7, 1910.

Women as Resident Medical Officers in General Hospitals

The question whether women should be eligible for appointment as resident medical officers in general hospitals, where they will have to deal with all sorts of emergency cases in male patients, such, for example, as retention of urine by stricture, has been a burning question for some time in this country. Recently the board of one of the greatest of the provincial hospitals, the Manchester Royal Infirmary, decided not to appoint medical women to these posts—a decision which has aroused considerable criticism from both lay and medical sources. A meeting of the Medico-Ethical Society of Manchester was held to discuss the subject. Some 20 medical women of the Northern Association of Medical Women attended by invitation. The case for the appointment of women was ably stated by Dr. Margaret Smith, inspector of midwives in Manchester. She outlined the history of medicine as a profession for women in this country since the admission of the first woman to the Medical Register in 1859. The facilities now offered to women for the study of medicine were now so good, she said, that on the whole they compared favorably with those of men. But after graduation their opportunities were inferior. However, they were improving. Women's attempts to get experience in the form of general hospital work were met with such objections as "lack of accommodation," "woman's inability to agree with ward sisters," objections which were put at their true worth in one word—prejudice. The questions should be: Is woman a fit and proper person for appointment to a resident post in a general hospital? Does she possess the same qualities as entitle a man to hold the position? The answer depended on three things: record of work, experience and personal character. As to work, women's college records were often just as good as men's; as to experience, they were handicapped for senior posts, but for junior posts they had equal experience with men—namely, *nil*; as to character, women had the same common sense, kindness and physical capacity for work as men. Women had been found to get on with their colleagues just as well as men—neither better nor worse. It was personality, not sex, which mattered. It was said that women themselves object to a woman doctor, but they accepted them in practice. The argument that for a woman to attend a male was shocking to male modesty cut both ways. Ability and special skill were, after all, the whole basis on which medical attendance, by man or woman, depended. Sir William Sinclair, the well-known gynecologist, president of the society, insisted that in admitting women to medical schools they were necessarily admitted to all positions a male medical student or doctor could occupy. Although the meeting was well attended, there was no debate, for the reason that no one could be found to oppose the proposition. The immense change of opinion which has occurred is shown by the fact that the celebrated physician, the late Sir William Jenner, resigned from the council of the British Medical Association rather than agree to the admission of women to the association. This change is only a particular case of a more general one—the great advance of the movement in favor of the rights of women, i. e., the removal of all sex disqualifications.

The Cold Storage of Vaccine Lymph

The Medical Officer of the Local Government Board has issued an important report on the cold storage of vaccine lymph. During the past 12 months 400,820 charges of glycerinated calf lymph were issued from the board's laboratory (which supplies all the public vaccinators of the country). In primary vaccination the "case success" was 99.4 per cent., and the "insertion success" was 95.9 per cent., which shows that a high quality of lymph was maintained. Some time ago a preliminary report was published by Dr. Blaxall and Mr. Fremlin on the results of sustained subjection of glycerinated calf lymph to temperatures below freezing point. The present report contains further information on lymph kept in cold storage for periods of 2 years and 6 months, respectively. The 2-year-old lymph was found to be free from extraneous organisms and to give a "case success" of 97.8 per cent. and an "insertion success" of 91.4. Since July, 1908, the lymphs collected from two calves have been divided into two portions, one being placed in cold storage for 6 months and then issued to public vaccinators, the other being issued without being subject to a temperature below freezing. The former gave a case success of 99.6 per cent. and an insertion success of 96.7; the latter was issued 6 to 8 weeks after it was taken from the calves and gave a case success of 99.5 per cent. and an insertion success of 96.5. Thus the results in the two cases were practically identical, showing that the cold storage had not impaired the activity of the lymph. This result is important, as it shows that by cold storage a supply of lymph may be stored to meet any sudden expansion of demand which may arise by reason of an epidemic of smallpox.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, April 28, 1910.

Annual Meeting of the Society for Internal Medicine

As usual the Kongress für innere Medizin was held in the latter part of April at Wiesbaden under the presidency of the Berlin clinician, Professor Kraus. As about 180 papers were on the program and only four days available for the meeting, ten minutes or less was assigned for the reading of most of the papers, which consisted of mere abstracts. To be sure, this brief time is not favorable for thoroughness, but no other method is practicable to dispose of the large number of papers. With the new regulations which were adopted at this meeting it will be possible in future to limit the number of papers and so diminish the confusion. The reading of papers before the congress which have been already presented or published in the journals—which has hitherto frequently happened—will thus be prevented. Furthermore, papers which are deemed unsuitable will be rejected by the decision of the executive committee. Moreover, the time for the announcement of papers is limited, so that no papers will be received later than two to three weeks before the beginning of the meeting. It would be very desirable if by these means the excess of papers should be diminished; possibly also the general publication of German works will be favorably influenced.

SPECIFIC DIAGNOSIS AND TREATMENT OF TUBERCULOSIS

This was the principal topic of this year's session; it was presented by Professor Schütz, professor in the Berlin veterinary school and for some years a co-worker with Robert Koch, and by Professor Penzoldt of Erlangen. According to Schütz the subcutaneous injection of tuberculin gives only 2 to 3 per cent. of failures in the diagnosis of bovine tuberculosis. The other tuberculin diagnostic methods have proved inadequate. Bovine tuberculosis has constantly increased in Germany. In 1904, 17.88 per cent. of the cattle slaughtered in the abattoirs were tuberculous, but in 1907 the number was 21.21 per cent.; from 50 to 70 per cent. of the older milch cows may be regarded as tuberculous. With reference to the treatment of bovine tuberculosis, the method employed by Bang in Denmark, of feeding calves only with boiled milk, has not proved efficient; neither has the method of preventive injections of Behring's bovovaccine or Koch-Schütz' tauroman given satisfactory results. According to the German law regarding infection of cattle, enacted in 1909, all cattle with open tuberculosis are slaughtered and compensation made to the owners. In this way Germany loses annually over $3,600,000.

Penzoldt said in regard to diagnosis that Bloch's method of inoculation of animals by injection into the skin of the abdomen and slight crushing of the inguinal glands had shortened the time required to obtain reliable results. A positive cutaneous reaction he regards as a sure indication of tuberculosis, but the negative reaction is often unreliable. He does not consider any one preparation of tuberculin as unconditionally the best; all preparations are founded on the same principle. He advises to begin with 0.01 c.c. and increase by Sahli's method, avoiding any severe reaction. A rapid progress to large doses is dangerous and, on the other hand, too small doses give no results. The success with tuberculosis serums is inferior to that obtained by the tuberculin treatment. Hygienic and dietetic measures should be thoroughly enforced. Penzoldt has employed a careful tuberculin treatment for twenty years and is well satisfied with the results. A decisive opinion regarding the value of tuberculin cannot yet be given, but the remedy is surely given a higher rank at present than fifteen years ago. This view was supported by most of the following papers and discussions. In addition there were some who gave unlimited praise to the remedy and others who denied it all curative power. Professor Joehmann recommends, in accordance with his experiments made in the Rudolf Virchow hospital under the direction of Koch, to begin with old tuberculin and to continue with bacillus emulsion. Strong reactions are to be avoided by using tuberculin that is derived from bacilli which have been cultivated on media that are free from albumin. The best result Joehmann obtained was in glandular tuberculosis. Professor Sahli repudiates the diagnostic tuberculin reaction on account of its danger. Prof. F. Klemperer recommends immunizing with bovine tubercle bacilli in man.

Payr of Greifswald reported some observations on a peculiar stenosis of the colon at the hepatic and splenic flexures caused by abnormally sharp kinks and adhesions. With acute occlusion from this cause the picture of mechanical ileus may be produced, and the chronic condition may lead to the assumption of a carcinoma of the colon. In acute cases subcutaneous injections of atropin are of service, but in very severe cases and chronic cases operation is indicated. Payr has operated 27 times within six years with 2 deaths in quite desperate cases.

SECONDARY ANEMIAS

A very interesting report was made by Professor Gerhardt of Basel on the "Origin and Treatment of Secondary Anemias." A large part of the discussion was devoted to the importance of oleic acid as a cause of secondary pernicious anemia, particularly that due to the bothriocephalus. No concord of opinion was reached. Professor Schauman of Helsingfors emphasizes the importance of constitutional taints for the development of bothriocephalus pernicious anemia. Therapeutically great reliance is still to be placed on treatment by arsenic and iron. The transfusion of healthy blood has not produced any positive success, and the same may be said of serum treatment.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, May 10, 1910.

Distribution of Tuberculosis Among Vienna Children

In a report of the board of health some interesting data as regards the presence of tuberculosis among school children in Vienna are given. There were altogether 220,000 children between the ages of 6 and 16 in the Vienna elementary schools, of whom only 16,000 were examined. They comprised the poorer classes in the workmen's districts and the figures given are therefore selective. A constant increase in tuberculosis can be noted with increasing age. Children 6 to 10 years old were found suffering from one-sided lung disease in 10 per cent.; on both sides in 4 per cent.; and from bone tuberculosis in 3 per cent. The ages of 10 to 19 showed 12 per cent. disease of one lung, 3 per cent. of both lungs, and 5 per cent. of other tuberculous infections, while in the ages 14 to 16 practically the same conditions prevailed. The mortality from tuberculosis increased from 3 per cent. of all deaths in the first years to 12 per cent. of all deaths of the age 14 to 16. For comparison, it may be stated that all deaths from measles, whooping-cough, scarlet fever and diphtheria combined also amounted to a little over 12 per cent. The grave danger to the public disclosed by these figures cannot be overestimated. The private societies engaged in fighting tuberculosis of children are absolutely unable to grapple satisfactorily with the problem, and state help is at present negligible. The appointment of school doctors is a mere trifle, unless the parents are enabled to make their sick children healthy. This is the aim of the report.

Report of the Antirabies Institute in Vienna

The institute for antirabies inoculations in Vienna has recently published its report for 1907 and 1908; the following figures are worth mentioning: During the period covered, 955 persons applied for treatment and 148 others, who came to the institute for the same purpose, were found to be in no need of prophylactic injections. Seventy-seven per cent. of all the persons treated had been bitten by dogs undoubtedly suffering from rabies; 15 per cent. were bitten by animals which showed suspicious symptoms, but in which diagnosis was not confirmed by post-mortem findings, and the remainder were bitten by dogs against which suspicion was aroused from the presence of rabies in the vicinity. Altogether, 429 children, 366 men and 160 women were treated. Only such persons were received as had suffered a bleeding injury from the bite. The mortality during the two years was 0.7 per cent. (6 deaths), and if all cases treated in the institute are considered, the mortality is the same, 0.7 per cent. of 3,572 (26 deaths). Another 13 persons died out of this number during the time of observation, but these deaths were due to other disease than rabies. The number of deaths from rabies in the entire empire during the two years was 20 (13 persons not inoculated, 6 inoculated, one died during treatment). Since the number of persons injured by animals is unknown, a comparison between cases of persons inoculated and not inoculated is impossible. The rule in the institutes is to keep the patients in hospital, sending them home only after a definite course of injections has been made. In some cases, home treatment is given. Of the number mentioned above, 248 were treated as out-patients. There are in this country only three institutes of this kind, the largest being in Vienna, and the public are quite aware of the danger incurred by being bitten by a dog, as the number of persons showed who applied for treatment simply out of fear of rabies.

Meeting of Austrian and Hungarian Pediatrists

A very interesting and novel congress took place recently (April 30 to May 1) in Vienna, when Hungarian and Austrian pediatrists held a common session, a thing thought impossible before from political reasons. The shortness of time did not permit this first meeting to be as successful as it might have been, since so many papers were brought in at the very last moment that the time for reading had to be limited. Professor Chrobak, after welcoming the congress, explained its aim, and showed how political differences of opinions made a halt before science. Professor Escherich spoke about the indications and results of specific treatment of infantile tuberculosis, which was extremely important in producing so high a mortality. Docent Dr. Preisich of Budapest detailed the clinical and pathologic findings in tuberculosis in infancy; Professor Kraus read a paper on the use of tuberculin in infants. Professor von Bokay of Budapest detailed his observations on chronic hydrocephalus, which he said could be influenced materially by repeated punctures of the brain ventricles; the metabolism of childhood was discussed by von Reuss, Neurath, Fuchs, and Necker, and the discussions following these papers showed that much good could be obtained from such exchange of ideas. It was resolved to make such common meetings a standing institution.

Pharmacology

CHINOSOL

Report of the Council on Pharmacy and Chemistry

Chinosol, a product for which the Parmele Pharmacal Company is the American agent, was the subject of a Council report which appeared in THE JOURNAL, Jan. 25, 1908. The company took exception to the findings in the report and requested that Chinosol be reexamined. The request was granted, and the referee who made the first bacteriologic examination of the product—and who in this report will be called Referee I—reinvestigated Chinosol. An independent examination also was made by an expert (Referee II) who was not a member of the Council. The reports of Referees I and II were submitted to a third referee (Referee III), who in turn transmitted them to the Council. Copies of the reports of the referees were also sent to the Parmele Pharmacal Company, which objected to certain of the findings. The report of Referee III, based on the reply of the company, and on the findings of Referees I and II, appears below. The objections raised by the company to the second report were replied to by the Council, and with its reply were sent the results of the investigations made in Europe by Schneider and Seligman and by Charles J. Martin which confirmed the findings of the Council. After considering this further evidence, the company modified its claims and the Council accepted Chinosol for inclusion in New and Nonofficial Remedies.[1]

W. A. PUCKNER, Secretary.

The Council on Pharmacy and Chemistry took up the consideration of Chinosol on its own initiative and published its report in THE JOURNAL, Jan. 25, 1908. The Parmele Pharmacal Co. requested a reconsideration of Chinosol on the ground that the preparation examined which bore the label of Franz Fritzsche & Co., Hamburg,[2] did not come from them, since it did not bear their label. The firm also submitted bacteriologic reports by Dr. W. H. Patterson and by the Lederle Laboratories of New York with findings that differed in certain important respects from those obtained by the investigation made at the instance of the Council, and expressed the desire to conform to the rules of the Council in the exploitation of the preparation. In its letter to the Council the Parmele Pharmacal Co. laid special stress on the report of the Lederle Laboratories, and stated that it felt confident "that your referee will find our tests confirmed in every instance and will not find confirmed his own tests, if he will use Chinosol bearing our label."

Assuming that there might be a difference in the two brands of Chinosol as claimed, and considering the fact that the company had been willing to alter, and had somewhat altered, its advertising matter, removing some of the objectionable features and had accepted to some extent the criticism of the Council's first report, the Council granted reconsideration, and Chinosol was resubmitted to the original referee, who will be called Referee I in this report. Referee I having completed his reexamination of Chinosol,[3] the product at the request of the company and under revised rules of the Council, was submitted also to a new referee, not a member of the Council, who acted essentially in a professional advisory capacity to the Council, and who will be called Referee II in this report.[3] The reports of both referees having been considered by the Council and preliminary action taken by it, the Parmele Pharmacal Co. was, in accordance with the rules of the Council, given an opportunity to examine the findings of the Council and the reports of its referees, and the company submitted statements in reply. These statements and the findings of its referees having been carefully considered, the Council reached the following conclusions in regard to the questions concerning Chinosol:

AN INTENSE ANTISEPTIC

In its first report the Council found that Chinosol "does possess considerable antiseptic action and that it is in this respect superior to carbolic acid. On this point the statements in the circulars[4] are essentially correct." The findings of both our referees in the present investigation confirm this conclusion. As regards *Staphylococcus pyogenes aureus* and *Bacillus typhosus*, Chinosol is a better antiseptic than carbolic acid and equivalent to mercuric chlorid as an antiseptic. The findings of our first report and the claims of the Parmele Pharmacal Co. on this point are thus confirmed. [It should be stated that Chinosol as now marketed is free from 30 per cent. inert matter—potassium sulphate—and is, therefore, proportionately stronger than the brands examined by the Council's experts.]

A VERY POOR GERMICIDE

While there was no dispute concerning the antiseptic action of Chinosol, the findings of the Council in regard to its germicidal action disagreed fundamentally with the claims made for it in this respect by the Parmele Pharmacal Co. and with the findings of their experts. While the company had withdrawn its most extravagant claims concerning the germicidal power of Chinosol, it still claimed in the report of the Lederle Laboratories that Chinosol was superior to carbolic acid, and that in its action on *S. p. aureus* it was, in weak acid broth, "stronger than bichlorid" (not under other conditions), and that in general Chinosol resembled more nearly the strength of bichlorid of mercury than it did that of carbolic acid. The three investigations made by our referees (two by Referee I and one by Referee II) lead to the definite conclusion that in aqueous as well as in acid broth Chinosol is much less effective as a germicide than is carbolic acid and vastly inferior to mercuric chlorid.[5]

[NOTE: The Parmele Pharmacal Company has now withdrawn its claim that Chinosol has superior germicidal power to either phenol (carbolic acid) or mercuric chlorid.]

DISTINCTION BETWEEN ANTISEPTIC AND GERMICIDE

The striking difference in these results from those reported by the Lederle Laboratories appears to be due essentially to the care taken by our experts to exclude the possibility of *antiseptic* action being mistaken for *germicidal* action (see the reports for details; the precaution consisted simply in inoculating *larger* volumes of culture medium in order to overcome by dilution the intense antiseptic powers of Chinosol). The validity of such precautions appears to be above question—the principle has been recognized and accepted by such authorities, for instance, as Martin and Chick, Riedel and Walker, and others in the field.

Martin and Cooper's Results:—A letter received from the Parmele Pharmacal Company was handed to Referee II for an opinion, inasmuch as the letter quoted the results of Chick and Martin and attempted to show that these favored the stand taken by the Parmele Pharmacal Co. It was seen at once that the results of Chick and Martin in no wise supported the views of the company, but lest any error be committed in interpretation, Referee II wrote to Professor Charles J. Martin, F. R. S., director of the Lister Institute of Preventive Medicine, London, asking for an expression of opinion of the results of his own and Dr. Chick's work in the light of the quotation of the Parmele Pharmacal Co. Professor Martin's attention was also drawn to the fact that in their experiments with Chinosol the *antiseptic action* had possibly been overlooked.

This letter was acknowledged and in a second letter Professor Martin wrote that Mr. A. E. Cooper, working with him, had repeated Referee II's observations on Chinosol and had confirmed the referee's results. Professor Martin expressed regret that he had omitted to ascertain in his first work (with H. Chick) whether Chinosol exhibited inhibition in such great dilution; a large number

1. See page 1789. See also editorial comment, this issue.
2. The Parmele Pharmacal Co. thought at the time the preparation used had been repacked by some American drug-house other than their own, and did not intend to question the product of Franz Fritzsche & Co.
3. The reports of Referees I and II and the protocols of Cooper and Martin will appear in the reprint of the entire matter, which will be mailed on request if a stamped addressed envelope is sent. The matter will appear in full in the annual reports of the Council on Pharmacy and Chemistry.
4. The circulars of the Parmele Pharmacal Co.
5. In their work on the germicidal power of corrosive sublimate, Chick and Martin (Jour. Hyg., 1908, viii, 654), in order to avoid the further action of mercury carried over in combination with the bacteria remove it with hydrogen sulphid. As such a subsequent exposure to hydrogen sulphid—which reduces the germicidal efficiency of bichlorid—would, except in the case of disinfection, possibly of fecal discharges, not occur in practice, this behavior does not affect the efficiency of corrosive sublimate as a practical disinfectant ("The value of corrosive sublimate as a practical disinfectant remains unassailed."—Chick). The hydrogen sulphid treatment was therefore not used by our referees. It is quite different with Chinosol, whose antiseptic action can be overcome by subsequent dilution—such as is quite possible or even probable in practice.

of organic disinfectants had been examined by them without their coming across this phenomenon. At the time too, they were not concerned with determining the germicidal value of Chinosol.

The following tables are an abridgement[2] of the work and results of Mr. E. A. Cooper and Professor Martin:

SERIES I.

Organism used: *Staphylococcus pyogenes aureus*, broth culture 24 hours old. Several drops of this culture were deposited in the dilutions of phenol (carbolic acid) and Chinosol, and by means of a special pipette one drop containing 0.013 c.c. was carried over from each dilution to a tube containing 10 c.c. of broth and incubated.

APPARENT GERMICIDAL RESULTS WITH CHINOSOL

Agent.	Dilution Strength.	Time of Exposure in Disinfectant (Growth Results). 15 Min.	30 Min.	Ultimate Dilution of Agent in 10 c.c. of Broth.
Phenol	7:1000	+	+	1:109,890
	9:1000	+	—	1: 85,470
	10:1000	—	—	1: 76,923
Chinosol ...	80:1000 up to 200:1000	—	—	1: 9,615 up to 1: 3,846

SERIES II

To eliminate the inhibitive or antiseptic action of Chinosol on *S. p. aureus*, one drop (0.013 c.c.) of the contents of the first broth tube was removed and deposited in a second one containing 10 c.c., and incubated.

GERMICIDAL ACTION ABSENT

Agent.	Dilution Strength.	Time of Exposure in Disinfectant (Growth Results). 15 Min.	30 Min.	Ultimate Dilution of Agent in 10 c.c. of Broth.
Chinosol ...	80:1000 up to 200:1000	+	+	1:7,396,150 up to 1:3,958,460

Similarly using *Bacillus typhosus*, it was demonstrated that the antiseptic action of Chinosol was considerably less than on *S. p. aureus*, and germicidal action was absent.

It is, therefore, clear that what Chinosol could not effect on *S. p. aureus*, in strengths of 200:1000 parts, phenol (carbolic acid) accomplished in 10:1000 parts; this effectively demonstrates the superiority of phenol as a germicide over Chinosol.

Schneider and Seligman's Work:—Of particular interest and importance in this connection is the work of Schneider and Seligman in the laboratory of Proskauer, *Institut für Infektionskrankheiten*, Berlin (*Ztschr. f. Hyg. u. Infectionskrankh.*, 58, 412-40). These investigators recognized clearly the importance of *avoiding the mistaking of antiseptic action for germicidal action* in the examination of disinfectants, and write as follows concerning Chinosol: "With Chinosol also, to which a disinfecting power equal to that of corrosive sublimate is ascribed, we obtained poor results by the 'thread method.' Whereas, for instance, only a 10 per cent. solution of Chinosol was able to kill within an hour the staphylococci dried on the threads, the ordinary method of transfer of the mixture of bacteria and disinfectant in the culture medium gave the false appearance of killing the bacteria in approximately the same time already in 1 per cent. to 2 per cent. solutions. That this last result is due only to antiseptic action ('*Entwickelungshemmung*') need not be especially emphasized." Their results (*S. p. aureus* being used) are so characteristic of the question in dispute that they are reproduced here:

TABLE I

ANTISEPTIC ACTION NOT AVOIDED

Minutes	5	10	15	20	25	30
2 per cent.	—	+	—	—	—	—
3 per cent.	—	—	—	—	—	—

TABLE II

STAPHYLOCOCCI THREADS; ANTISEPTIC ACTION AVOIDED

Minutes	10	20	30	40	50	60
3 per cent.	+	+	+	+	+	+
5 per cent.	+	+	+	+	+	+
7 per cent.	+	+	+	+	—	—
10 per cent.	+	+	+	—	—	—

The results obtained in Table I were obtained without using the precaution to prevent antiseptic action; those obtained in Table II are the results found when the threads were washed with dilute alkali to remove adhering Chinosol before transferring them to nutrient media. In another set of experiments carbolic acid was used, also with *S. p. aureus*.

TABLE III

ANTISEPTIC ACTION NOT AVOIDED

Minutes	5	10	15	20	25	30
Phenol 1 per cent.	+	+	+	+	+	+
Phenol 1.5 per cent.	+	—	—	—	—	—

TABLE IV

THREADS WASHED WITH DILUTE ALKALI; ANTISEPTIC ACTION AVOIDED

Minutes	5	10	15	20	25	30
Phenol 2 per cent.	—	—	—	—	—	—

The Council thus was obliged to confirm its original findings that while Chinosol is a powerful antiseptic, it is a very poor germicide, and the claims made for it in this respect must be rejected. It may be added that the Council has considered the question of physicians being given reliable information as to each of these properties a fundamental one.

ITS NON-POISONOUS CHARACTER

In the Council's first report the evidence of T. Weyl was quoted questioning the claim made that the use of Chinosol is free from the dangers of poisoning. Weyl's evidence and reliability having been questioned by the firm and experimental evidence by the Lederle Laboratories submitted contradicting his conclusions, the Council[6] had some experiments bearing on this question carried out by its own expert.[7] It finds that in so far as guinea-pigs and rabbits are concerned Chinosol is devoid of toxic power. The authority quoted in the first report is therefore found to be unreliable and Chinosol must be considered non-toxic.

CHEMICAL COMPOSITION OF CHINOSOL

In 1899 Rost-Sonntag showed (*Chem. Zentralbl.*, 1899, ii, 396, and *Arb. a. d. k. Gsndhtsamte*, xv, 288-301), that Chinosol was a mixture. In its first report the Council confirmed the conclusions of Brahm, working in the physiologic institute of the University of Berlin, that Chinosol is not a sulphonate of oxyquinoline, as represented by the promoters of Chinosol, but a double salt or mixture of its sulphate with potassium sulphate. The result of these findings was accepted by the Parmele Pharmacal Co. and the correction made in its subsequent publications; the original error, according to the firm, was due to its accepting the statement of the U. S. Dispensatory, i. e., that Chinosol is an oxyquinoline sulphonate as authoritative in the matter. Chinosol is now no longer marketed as the double salt or mixture of oxyquinoline sulphate and potassium sulphate, but as pure normal (neutral) oxyquinoline sulphate $(C_9H_7NO)_2H_2SO_4$.[7]

ANTISEPTIC ACTION VS. GERMICIDAL ACTION

It seems of the greatest importance to the Council that antiseptic power be not mistaken for germicidal power and that physicians should be correctly informed as to these properties of disinfectants[8] recommended to them, so that they may decide for themselves in every given case which action they wish to produce. This seems especially important in the case of a substance, which, according to the findings in three expert examinations on the part of the Council, has very poor germicidal power, not at all comparable with that of bichlorid of mercury, as had been claimed by the Parmele Pharmacal Co. In view of this the Council ordered the publication of this report and refused to accept Chinosol for admission to "New and Nonofficial Remedies" until the claims made for its germicidal action had been modified in accordance with its findings.

[NOTE: The Parmele Pharmacal Company has re-submitted Chinosol with the advertising matter revised in accordance with the findings of the Council. All objectionable claims having been eliminated the Council reconsidered the product and accepted Chinosol for admission to New and Nonofficial Remedies.]

6. These appear in the report of Referee II; see footnote 2.
7. Zernik: Apoth.-Ztg., 24, No. 63, p. 568.
8. For example, in the disinfection of hands, instruments, linen or silk threads, etc., germicidal and not antiseptic power would be desired. Chinosol solution as dilute as 1:1000 had been recommended for these purposes. A glance at the tables, either of the referees or of Schneider and Seligman, will show the danger of assuming that complete disinfection is accomplished by such solutions in a reasonable length of time.

ASPIRO-LITHINE

Aspiro-lithine is another comparatively new example of the custom of proprietary manufacturers in putting forward old drugs under a new name and with them bidding for the favor of physicians. An inquiry has been received concerning this mixture. It is prepared by McKesson & Robbins and is said to contain in each tablet 5 grains of acetylsalicylic acid (aspirin) and 2½ grains of acid citro-tartrate of lithium. It is recommended for all the purposes for which acetylsalicylic acid is commonly used, and on account of the lithium added is claimed to have much greater virtues than either of these drugs alone or of both combined.

We had hoped that the time had passed for reputable houses to employ such time-worn methods, but probably they will not stop so long as physicians encourage them by continuing to use such preparations. Acetylsalicylic acid is a good drug, whose value is pretty well known. It is further known that lithium salts do not possess any great medicinal virtue. Just what acid citro-tartrate of lithium may be is hard to tell, for chemistries do not recognize such a substance. The name presumably is intended to hide the real nature of the preparation.

But if there be any advantage in combining lithium salts with acetylsalicylic acid in a prescription, it is a simple proposition and requires no great skill, either on the part of the physician who writes the prescription or on the part of the druggist who puts it up, and such mixtures as aspiro-lithine, with the exaggerated claims made for them, should be avoided in the physician's prescribing.

Correspondence

Medical Biographical Data Wanted

To the Editor:—In my Cyclopedia of American Medical Biography, now practically ready for press, there are a few dates still lacking.

Douglas, Richard, Tennessee, parentage and birth place.
Paget, Jean C., New Orleans, date of death.
Pallen, Moses, St. Louis, parentage and birth place.
Denison, Charles, Denver, parentage and birth place.
Guthrie, Samuel, Chicago, date of death.
Van Dyck, Cornelius, Syria, date of birth and death.
Litton, Abraham, Tennessee, date of birth and death.
Gregory, Elisha H., St. Louis, date of death.
Burroughs, Richard B., Florida, date of death.
Cheever, Aug. C., Boston, date of death.
Eve, Joseph A., Georgia, wife; death date.
Entrikin, F. W., Ohio, date of death.
Etheridge, J. H., Chicago, date of death.
Howard, R. P., Canada, date of birth.
Gilmer, George, Virginia, date of death.
Martin, Solomon C., St. Louis, date of death.
Cheever, Abijah, Boston, date of birth and death.
Jones, John, New York City, date of death.

If any readers could help me with these they would receive the warm thanks of,

Yours faithfully,
HOWARD A. KELLY, Baltimore.

Pituitary Extracts in Hay Fever, Asthma, Etc.

To the Editor:—The period of so-called "rose cold" or "vernal hay fever"—i. e., vernal, pollenogenic, angioneurotic edema of the air passages—is approaching, or with certain patients, here. Referring to my observations in 1898 concerning the use of adrenal preparations in this disorder and in asthma (since confirmed throughout the world) I wish now to ask physicians to use preparations of the pituitary gland, and more especially of the infundibulum or posterior lobe. There are at least two, and possibly several, good commercial preparations now available.

From the recoveries which I have observed to follow their use in Quincke's edema, asthma, recurrent erythema and other angioneuroses, as well as their effects in "opening" the nasal passages, I should expect them to be superior to the adrenal preparations in all varieties of hay fever. The action is slower, but more persistent.

The pituitary extracts may be used both topically and systemically. While more effective by hypodermic injection, they also produce clinical results when administered by the mouth—another advantage over the adrenal extracts.

I shall be much obliged for reports by letter or publication of the experience of those adopting this suggestion.

SOLOMON SOLIS COHEN, Philadelphia.
1525 Walnut Street.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

VALUE OF TETANUS ANTITOXIN

To the Editor:—Has the efficiency of antitetanic serum in the treatment of tetanus been sufficiently demonstrated to merit its use in that disease with confidence of positive results?

C. A. ANDERSON.

ANSWER.—It has not been found that antitetanic serum has any particular effect on the symptoms of tetanus because these appear as the culmination of the disease when it is too late for anything to have much effect. As a prophylactic, however, antitetanic serum is markedly efficient, especially if accompanied with free opening of the wound and removal of foreign matter. It is important to prevent this foreign matter and the tetanus germs from being sealed up at the bottom of the wound, which often heals superficially. The efficiency of antitetanic serum has secured for it a position in New and Nonofficial Remedies and the Committee of the Section on Pathology and Physiology recommends its inclusion in the Pharmacopeia. The report of this committee appeared in THE JOURNAL, April 23, 1910, page 1389.

SOIL POLLUTION AND DISPOSAL OF HUMAN EXCRETA

As further communications have been received concerning soil pollution and disposal of human excreta and wastes by the septic tank method, about which a query and answer appeared in THE JOURNAL, April 23, an additional note on these subjects may be of interest.

In the weekly *Public Health Reports* of the U. S. Public Health and Marine-Hospital Service, April 29, DR. C. W. STILES has an article which may be obtained in reprint, on the subject of soil pollution and the sanitary privy, from which extracts are given below.

The importance of the prevention of soil pollution is apparent when it is remembered that diseases having their focus of infection in the intestinal and urinary systems, such as typhoid fever, hookworm disease, eelworm infection, tapeworms, Cochin China diarrhea, amebic dysentery, bacillary dysentery, etc., can be greatly reduced or eradicated by the prevention of such pollution. DR. STILES says that it is common knowledge that nearly all animals harbor parasites in their intestinal canals. The eggs are passed in the droppings and reinfect live stock; farmers have learned that animals kept on the same pasture year after year will not thrive on this account. Human beings are also infected with many parasites, and where no sewer systems exist soil pollution must be prevented by the disposal of human dejections in sanitary privies or by the septic-tank method.

DR. STILES' paper, while covering much the same ground as the article in THE JOURNAL of April 23, goes more fully into details as to the location and construction of sanitary privies and disinfection and disposal of the excreta. The article gives illustrations of such privies, using a receptacle in the form of a can or tub, with top-soil, lime, water and oil, and other materials for deodorizing, disinfecting or destroying the excreta. Full directions are given for building such a privy. It is a good plan to have a double set of tubs so that one set can be removed, treated with the disinfectant, covered and allowed to stand for a week before emptying to allow time for the destruction of the germs, or to allow fermentation to take place when no disinfectant is used. DR. STILES says that until it is determined with certainty how long parasites and germs or their spores may live under the various methods of treatment of the excreta mentioned, it is better to bury all human discharges at least 300 feet away and down hill from any well or spring. It would be better to burn such material, and in one instance this was done in the following way: The privy vault was built of cement and the building above hinged to the foundation. Kindling and straw were placed in the bottom of the vault, and each week the upper structure was tipped over—away from danger of catching fire—oil thrown into the vault and the material burned up. If used for fertilizer it should be plowed under and not used on crops of vegetables which are to be eaten raw.

The vacation season will soon be here and many people will spend the summer in temporary residences or camps. The matter

of the disposal of waste is important. The human excrement may be disposed of by the dry-earth method already described. Kitchen slops attract flies and afford breeding-places for mosquitoes. A simple and inexpensive way to dispose of this form of waste is to dig a hole in porous earth three feet deep, with short tunnels running off from each side. The pit may then be filled with broken rock, sticks and brush and covered with a top mat of pine needles or other finely divided material. Coarse refuse is screened out and burned in the camp fire each day and the rest of the slops will take care of themselves in the slop pit without odor or inconvenience. The pit should be surrounded by a frame covered with fine mesh cheese-cloth. Dry garbage is disposed of most effectively by frequent burning.

The septic-tank process of disposal of sewage depends on the breaking down of the solid, organic matter of the sewage into simpler substances by the action of anaerobic, putrefactive or liquefying bacteria. It has been found that from 50 to 75 per cent. of the solid matter is destroyed by the process, and where the effluent is discharged into a stream twice as much septic as raw sewage will be received before the point of pollution is reached which will cause a nuisance. The effluent may also be discharged into contact beds, where it is oxidized by aerobic bacteria or into the soil through subsurface pipes.

The details of the process may be understood by describing the construction and operation of a septic tank designed for use by private individuals having in their houses a gravity, compressed-air or other water-supply system. This description, as well as the notes on the disposal of camp garbage, is from the March, 1910, *Bulletin of the California State Board of Health*. It has been found that the bottom of the tank should have at least one square foot of surface for each person in a family. It may be made of either concrete or wood, 4 feet deep and 4 feet wide and of sufficient length to provide the proper surface capacity. It should be located some little distance from the house, connected therewith by a 4-inch vitrified drain tile, which should enter at the top and continue at a right angle to within a foot of the bottom. The outlet pipe on the opposite side of the tank should be of 2-inch tile, located 2 feet from the bottom. The tank may be buried in the ground and should perhaps be covered and have a small vent-pipe in the top. A tight cover is not essential. A baffle or partition 2 feet high, running the full length of the tank should be placed on the bottom 1 foot or less from the side of the inlet, and another suspended edgewise from the top of the tank an equal distance from the side of the outlet and reaching within a foot of the bottom. These baffles insure a uniform distribution of the sewage. This completes the tank, except that the outlet should be provided with a galvanized iron weir of one gallon capacity connected with the outlet tile by means of a galvanized iron pipe, permitting a continuous outward flow. The outlet pipe should be continued into a surface contact bed, a stream, or by loose-jointed branched tile, having a total length of at least 200 feet underneath the surface to conduct away the effluent. Subsurface irrigation is successful only in porous soil. This tank will take care of sewage from the toilet, bathroom, kitchen and the laundry-tubs.

The sewage flows from the house into the septic tank and is held there by the outlet weir for ten or twelve hours. During this time the sewage is worked over by the anaerobic bacteria and broken up, the heavy, inorganic portions sinking to the bottom, the lighter portion rising to the top and forming a feathery mat, but most of it is broken up into gases and materials which dissolve in the water and are carried off. A tank with sufficient area to work successfully need not be cleaned of sludge for three or four years. This tank will cost from $25 to $30. This method is applicable to small cities or towns having a sewer system, and is successful where sufficient area of tankage is provided. The effluent, however, must be discharged into streams or be treated by chemical or contact bed methods.

The Public Service

Medical Department, U. S. Army

Changes for the week ended May 21, 1910:

Long, Charles J., dental surgeon, ordered to Fort Thomas, Rhode Island, for duty.

The following named officers of the Medical Corps will report in person, June 20, 1910, to Lieutenant Colonel Henry P. Birmingham, Medical Corps, president of the examining board at the Army Medical Museum Building, Washington, D. C., for examination to determine their fitness for promotion: Majors Henry D. Snyder, Philip C. Bales, Allen M. Smith, Joseph T. Clarke, Merritte W. Ireland, Henry C. Fisher, Henry A. Shaw, Francis A. Winter.

Fauntleroy, P. C., major, granted 10 days' leave of absence.

Vaughan, Victor C., 1st lieut., M. R. C., will proceed from Ann Arbor, Mich., to this city, for the purpose of delivering the address to the graduating class at the Army Medical School on May 31, 1910, and on the completion of this duty will return to his home.

Phalen, James M., capt., ordered to Columbus Barracks, Ohio, for duty.

Love, Albert C., capt., will repair to this city and report in person to the Surgeon General of the Army, for duty in his office.

Duncan, William A., capt., relieved from duty at Army General Hospital, San Francisco, and from observation and treatment, Walter Reed General Hospital, Washington, D. C., and ordered to Vancouver Barracks, Wash., for duty.

Cutliffe, William O., 1st lieut., M. R. C., granted leave of absence for 1 month.

Miller, Albert L., 1st. lieut., M. R. C., relieved from temporary duty at Fort Robinson, Neb., and to return to station at Fort Meade, S. Dak.; granted 24 days' leave, to take effect about May 20, 1910.

Hoff, John Van R., col., detailed as instructor in military hygiene at the Camp of Instruction for infantry officers of the organized militia, State of Pennsylvania, to be held at Mt. Gretna, Pa., commencing May 17, 1910.

Pipes, Henry F., capt., is assigned to the command of the one-half of Co. C, Hospital Corps, to participate in the military tournament at Nashville, Tenn., June 19 to 26, 1910, the camp of instruction at Chickamauga Park, Ga., July 5 to Aug. 2, 1910, and camp of instruction at Fort Benjamin Harrison, Ind., Sept. 1 to 30, 1910.

Bradley, John R., 1st lieut., M. R. C., ordered to duty with Battery E, 5th Field Artillery, from Fort Leavenworth, Kan., to Sparta, Wis.

Fauntleroy, P. C., reports on 10 days' leave of absence.

DeLaney, M. A., capt., ordered to proceed to Philadelphia, on official business pertaining to the Medical Department.

The following assignments of officers of the Medical Corps to duty at the camp of instruction to be held at Gettysburg, Pa., during the month of July, 1910, are ordered: Major E. E. Parsons, to command stationary hospital; Major Charles R. Reynolds, to be medical inspector; Captain George P. Pood, to be sanitary officer, assistant to the medical inspector; Captain William B. Davis, to be sanitary officer, assistant to the medical inspector.

Banister, John M., col., granted 4 months leave of absence, to take effect about Sept. 1, 1910.

Harris, Jesse R., capt., ordered to the Army General Hospital, San Francisco, for observation and treatment.

Gunckel, George L., dental surgeon, reports for temporary duty at Fort Barrancas, Fla.

Medical Corps, U. S. Navy

Changes for the week ended May 21, 1910:

Kaufman, J. B., P. A. surgeon, commissioned passed assistant surgeon from March 24, 1909.

Dodge, A. H., asst.-surgeon, detached from the *California* and ordered to continue treatment at the Naval Hospital, Mare Island, Cal.

Halton, E. P., acting asst.-surgeon, appointed acting assistant-surgeon from May 16, 1910.

U. S. Public Health and Marine-Hospital Service

Changes for the week ended May 18, 1910:

Trask, J. W., asst.-surgeon general, directed to proceed to Detroit and Lansing, Mich., and Harrisburg, Pa., on special temporary duty.

Woodward, R. M., surgeon, granted 7 days' leave of absence from May 15, 1910, under paragraph 189, Service Regulations.

Cobb, J. O., surgeon, leave granted for 7 days from May 7, 1910, amended to read 5 days from May 7, 1910.

Stimpson, W. G., surgeon, granted 20 days' leave of absence from May 15, 1910.

Anderson, John F., P. A. surgeon, directed to proceed to Mariette, Pa., on special temporary duty.

Ridlon, Joseph R., asst.-surgeon, relieved from duty on the U. S. Revenue Cutter *Seneca*, and directed to proceed to Port Townsend, Wash., and report to the commanding officer of the U. S. Revenue Cutter *Manning* for duty.

Gammon, William H., acting asst.-surgeon, granted 4 months' leave of absence, without pay, from May 15, 1910.

Hamilton, H. J., acting asst.-surgeon, granted 10 days' leave of absence from May 8, 1910.

Wallace, C. R., acting asst.-surgeon, granted 6 days' leave of absence from May 15, 1910.

Hobdy, W. C., P. A. surgeon, resignation accepted by the President, effective May 31, 1910.

Marriages

MILO TRIPP EASTON, M.D., to Miss Mary Helen Blackburn, both of Peoria, Ill., May 18.

LOUIS L. HOFF, M.D., Roxbury, Boston, to Miss Bessie Climan of Hartford, Conn., May 7.

JAMES THOMAS TAYLOR, M.D., to Miss Emily Louise Rankin, both of Reidsville, N. C., May 5.

JESSE W. TAFT, M.D., Waukesha, Wis., to Miss Emma Leora Einsel of Toledo, Ohio, recently.

CHARLES REUBEN MCCREERY, M.D., Tacoma, to Miss Bertha Frances Harris of Seattle, May 14.

MORTIMER ELIHU EMRICK, M.D., to Miss Katherine M. Scanlon, both of Chicago, at South Bend, Ind., May 17.

CRAIG THOMAS BURNS, M.D., Oklahoma City, Okla., to Miss Maud Staniland of Buffalo, N. Y., May 17.

GEORGE CUMMINGS ALBEE, M.D., to Miss Mary Robinson West Reed, both of New York City, May 4.

WILLIAM A. HULBUSH, M.D., Philbrook, Mont., to Miss Bertha Isidora Elizabeth Krug of Fond du Lac, Wis., May 16.

JOHN W. KELLY, M.D., to Miss Maude Josephine Wolfe, both of Springfield, Ill., May 7.

Deaths

Barton H. Potts, M.D. University of Pennsylvania, Philadelphia, 1891; a member of the American Medical Association, and American Otological Society and fellow of the College of Physicians of Philadelphia; resident physician to the Children's Hospital, Philadelphia, and Presbyterian Hospital, Philadelphia; laryngologist and aurist to St. Mary's Hospital; laryngologist to the Pennsylvania Training School for Feeble-Minded Children and aural surgeon to the dispensary of the Children's Hospital; laryngologist and aurist and chief of the nose and throat division of the German Hospital; died at his home in Philadelphia, May 8, from pneumonia, aged 41.

Alonzo Potter Neale Painter, M.D. Jefferson Medical College, 1890; a member of the Medical Society of the State of Pennsylvania, National Association of U. S. Pension Examining Surgeons; formerly president of the Armstrong County Medical Society, and physician of Armstrong county; staff physician to Kittanning General Hospital; secretary of the local pension board; died at his home in Kittanning, May 2, from the effects of a gunshot wound of the heart, self-inflicted, it is believed, with suicidal intent, while despondent on account of prolonged illness, aged 41.

George Henry Kenyon, M.D. University of Vermont, Burlington, 1866; a member of the American Medical Association and Association of Military Surgeons of the United States; surgeon of the United Train of Artillery for several years; made assistant surgeon-general of Rhode Island in 1883, and appointed surgeon-general of Rhode Island Militia with the rank of brigadier-general in 1894; treasurer of the local board of U. S. Pension Examiners; a veteran of the Civil War; died at his home in Providence, May 7, from nephritis, aged 65.

George Arnold Bellows, M.D. Detroit Medical College, 1881; a member of the American Medical Association; physician to the Seneca County (N. Y.) Almshouse from 1884 to 1892; health officer of Waterloo from 1882 to 1883; U. S. pension examining surgeon from 1887 to 1895; coroner of Seneca County for several years, and since 1891, a member and secretary of the board of trustees of Waterloo Academy; died at his home in Waterloo, May 10, from acute nephritis, aged 53.

Benjamin Alexander Cheek, M.D. University of Pennsylvania, Philadelphia, 1861; a member of the Medical Society of the State of North Carolina, and formerly president of the McDowell County Medical Society; surgeon of volunteers during the Civil War; died at his home in Marion in April, from nephritis, aged 72.

Peter J. McCourt, M.D. New York University, New York City, 1890; formerly a member of the American Medical Association; a member of the Medical Society of the State of New York, and a fellow of the New York Academy of Medicine; of New York City; a veteran, and crack shot of the Seventh Regiment, N. G. N. Y.; died at his home in Mount Vernon, N. Y., May 7, aged 68.

Henry Warren Fishel, M.D. University of Maryland, Baltimore, 1886; a member of the Medical Society of the State of Pennsylvania; formerly of Dillsburg; a member of the legislature from York county in 1894; ophthalmologist to the Messiah Home for the Children and Aged, Harrisburg; died at his home in that city, May 9, from cerebral hemorrhage, aged 58.

Jacob Imboden Leas, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1857; formerly surgeon of the Iowa Central Railroad at Neligh, Neb.; local surgeon and later general consulting physician and surgeon of the Fremont, Elkhorn and Missouri River Railroad at Chadron, Neb., and mayor of that city in 1891; died at his home, April 22, aged 75.

Richard Arthur DeKay, M.D. Bellevue Hospital Medical College, 1890; a member of the Medical Society of the State of New York; for several years health officer of the town of Rockland, and an inspector of the State Department of Health; was found dead in his office in Livingston Manor, May 3, from pulmonary edema following influenza, aged 46.

Emory Ellsworth Stover, M.D. State University of Iowa, Iowa City, 1898; a member of the Upper Des Moines, Iowa, and Southwestern Minnesota Medical societies; local surgeon of the Northwestern System, and health officer of Bigelow, Minn.; died recently at his home in that place from pulmonary tuberculosis, aged 45.

Tomlinson Fort Brewster, M.D. Jefferson Medical College, 1856; surgeon of the Fifty-fourth Georgia Regiment, C. S. A., during the Civil War; for several terms a member of the state legislature; superintendent of the Grady Hospital, Atlanta, for fourteen years; died in that institution, May 1, from nephritis, aged 76.

Walter S. Tingley, M.D. Medical College of Indiana, Indianapolis, 1884; for twelve years coroner of Campbell county, Ky.; formerly a resident and at one time health officer of Newport; pastor of the Christian Church of Harrisburg, Ind.; died in Speer's Memorial Hospital, Dayton, Ky., May 6, from nephritis, aged 63.

Wilson Lockhart, M.D. Jefferson Medical College, 1853; formerly superintendent of the Eastern Washington Hospital for the Insane, Medical Lake; at one time superintendent of the Indiana State Hospital for the Insane; died in his office in Seattle, April 28, from cerebral hemorrhage.

Paul Mundy St. Clair, M.D. Medico-Chirurgical College of Philadelphia, 1906; a member of the resident staff of Blockley Hospital, Philadelphia; for two years assistant physician in the Central Indiana Hospital for Insane, Indianapolis; died in Blockley Hospital, May 12, from meningitis, aged 27.

Lindsay Johnson, M.D. University of Louisville, 1874; Hospital College of Medicine, Louisville, 1877; a member of the Medical Association of Georgia; for several years professor of anatomy in the Hospital College of Medicine; died at his home in Cartersville, Ga., May 11, aged 58.

Ezra J. Ayers, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1871; of California, Mich.; for more than 40 years a practitioner of California township, Kent county, Mich.; was injured in a runaway accident near his home, May 12, and died early next morning, aged 70.

Robert B. Wilson, M.D. Syracuse University, 1894; for 40 years a practitioner of Tower City, Pa., and publisher of the *Echo*; chief burgess and member of the school board of Tower City; died at the home of his son in Ardmore, May 8, from cerebral hemorrhage, aged 80.

Samuel Beach Jones, M.D. College of Physicians and Surgeons, New York City, 1872; a member of the Medical Society of the State of New York and the New York Academy of Medicine; died at his home in New York City, May 13, aged 67.

Landon C. Johnson, M.D. Ensworth Medical College, St. Joseph, Mo., 1893; formerly assistant health officer of St. Joseph, and superintendent of the Enworth Hospital; died at his home in Joplin, May 2, from cancer of the stomach, aged 43.

Isaiah B. Seagley, M.D. College of Physicians and Surgeons, Chicago, 1896; a member of the American Medical Association; formerly of Scotland, S. D.; died suddenly at his home in Presho, S. D., May 7, from angina pectoris, aged 47.

Charles Ward Thorpe, M.D. Gross Medical College, Denver, 1903; acting assistant surgeon in the U. S. Army with Philippine service; formerly of Denver; died at his old home in Nicholasville, Mich., April 16, aged 39.

Lucius S. Campbell, M.D. American Health College, Cincinnati, 1882; for many years a practitioner of Marshfield, Mo.; died at the home of his son in Springfield, Mo., April 11, from senile debility, aged 83.

Thomas Green Duncan, M.D. University of Louisville, 1868; Bellevue Hospital Medical College, 1870; a Confederate veteran; died at his home in Victoria, Texas, May 13, from cancer of the liver, aged 69.

James Thomas Polson (license, Mo., 1883); a member of the American Medical Association; for 44 years a practitioner of Laclede, Mo.; died at his home, April 13, from carcinoma of the thyroid gland, aged 71.

William D. Scott, M.D. Rush Medical College, 1866; a member of the Michigan State Medical Society and a veteran of the Civil War; died at his home in Ithaca, May 9, from cancer of the throat, aged 68.

Benjamin F. Budworth, M.D. University of Minnesota, Minneapolis, 1902; of Shelly, Minn.; died in the Northwestern Hospital, Minneapolis, May 9, from pneumonia, following pulmonary abscess, aged 41.

John Eliot Blaine, M.D. Bellevue Medical College, 1872; in charge of an institution for the cure of alcoholism and the drug habit in St. Louis; died in the institution, May 11, from angina pectoris, aged 59.

Isaac Carey, M.D. Botanico-Medical College, Cincinnati; for more than sixty years a practitioner of Grant county, Ind.; died at the home of his son in Marion, Aug. 2, 1909, from senile debility, aged 96.

William Clark Snyder, M.D. New York Homeopathic Medical College, New York City, 1906; of Utica, N. Y.; died at the home of his father in Binghamton, N. Y., April 30, from tuberculosis, aged 28.

Martin Cagle, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1894; of Adairsville, Ga.; was crushed between a grain platform and a moving boxcar at Atlanta, May 6, and instantly killed.

Russell B. Moore, M.D. Kansas City (Mo.) Hospital College of Medicine, 1885; for 51 years a practitioner of Auburn, Ga.; died at his home in that city, March 18, from intestinal obstruction, aged 76.

William P. LaFollette, M.D. University of Louisville, 1880; formerly of New Salisbury, Ind.; died at his home in Mott, Harrison county, Ind., recently, from pulmonary tuberculosis, aged 58.

Jenkins DeVaney Pope, M.D. St. Louis Medical College, 1851; formerly a member of the Arkansas Medical Society; died at the home of his son in Monticello, May 1, from senile debility, aged 85.

Thomas Hall McCorkle, M.D. Medical College of Ohio, Cincinnati, 1879; of Terre Haute, Ind.; died in St. Anthony's Hospital, Terre Haute, March 29, from nephritis, aged 64.

Robert L. Duncanson, M.D. Ensworth Medical College, St. Joseph, Mo., 1892; of Ionia, Kan.; died at the home of his daughter in that city, April 25, 1909, from tuberculosis.

Patrick H. Perkins, M.D. McDowell Medical College, St. Louis, 1855; for 45 years a practitioner of Linneus, Mo.; died at his home, April 14, from senile debility, aged 81.

Lewis A. Denton, M.D. Long Island College Hospital, Brooklyn, 1876; a member of the Buffalo Academy of Medicine; died at his home, May 8, from pneumonia, aged 60.

Hezekiah Doster, M.D. Bellevue Hospital Medical College, 1872; of Poneto, Ind.; died at the home of his daughter in that place, May 11, from paralysis, aged 67.

Edward Franklin Bittner, M.D. Eclectic Medical Institute, Cincinnati, 1899; died suddenly at his home in Somerset, Pa., April 29, from angina pectoris, aged 41.

Simon P. Putt, M.D. Starling Medical College, Columbus, Ohio, 1878; died at his home in Baltic, Ohio, May 1, from chronic interstitial nephritis, aged 56.

Robert Franklin Conkle, M.D. Western Reserve University, Cleveland, 1872; died at his home in Coraopolis, Pa., May 8, after a surgical operation, aged 61.

Hiram Lee Nease, M.D. Vanderbilt University, Nashville, 1898; died at his home in Shelbyville, Tenn., May 9, from cerebral hemorrhage, aged 43.

George W. Wilson, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1863; died at his home in Curtis, Neb., May 5, from senile debility, aged 75.

Irvin J. Bowen (examination, N. Y., 1874); a practitioner for 51 years; died at his home in Ashville, N. Y., May 12, from heart disease, aged 76.

Sandapher B. Spickard, M.D. Vanderbilt University, Nashville, 1882; died at his home in Jackson, Miss., May 7, from cerebral hemorrhage, aged 53.

Van Wagener, M.D. Medical College of Ohio, Cincinnati, 1876; died at his home in Bridgeport, Ohio, May 6, from cerebral hemorrhage, aged 56.

Philip Lloyd Pollock, M.D. Hahnemann Medical College, Philadelphia, 1901; of Fort Worth, Texas; died in a hospital in that city, May 1, aged 30.

Charles Treat Lyons, M.D. New York University, New York City, 1852; died at his home in Waverly, N. Y., May 9, from senile debility, aged 88.

Robert H. Harmon, M.D. Tulane University, New Orleans; a Confederate veteran; died at his home in Marion Station, Miss., April 30, aged 66.

Horace B. Duncan, M.D. University of Louisville, 1876; of Williamsburg, Ky.; died in the University Hospital, Louisville, May 2, aged 72.

Joseph Brackbill, M.D. University of Pennsylvania, Philadelphia, 1869; died at his home in Reading, May 6, from heart disease, aged 65.

Delma C. Campbell (license, Miss., 1901); formerly of Hesterville, Miss.; died recently in Chihuahua, Mexico, from tuberculosis, aged 34.

Walter C. Jackson, M.D. Tulane University, New Orleans, 1900; died at his home in New Orleans, May 11, from appendicitis, aged 30.

Buchanan Ramer, M.D. Indiana Eclectic Medical College, 1890; died at his home in Surprise, Ind., May 8, from nephritis, aged 53.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, St. Louis, June 7-10.

American Academy of Medicine, St. Louis, June 4-6.
American Assn. of Medical Milk Commissions, St. Louis, June 6.
American Association of Medical Examiners, St. Louis, June 5-6.
American Gastro-Enterological Association, St. Louis, June 6-7.
American Proctologic Society, St. Louis, June 6.
American Society of Tropical Medicine, St. Louis, June 11.
American Urological Society, St. Louis, June 6-7.
Assn. of Amer. Teachers of Diseases of Children, St. Louis, June 6.
Maine Medical Association, Bar Harbor, June 29-30.
Massachusetts Medical Society, Boston, June 7-8.
Nat. Con. State Med. Exam. and Licensing Bds., St. Louis, June 6.
New Jersey Medical Society, Atlantic City, June 28-30.
North Carolina, Med. Soc. of State of, Wrightsville Beach, June 21.
Rhode Island Medical Society, Providence, May 31.
Wisconsin, State Medical Soc. of, Milwaukee, June 22-24.

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-fifth Annual Meeting, held at Washington, D. C., May 3-5, 1910

The President, DR. HENRY HUN, of Albany, in the Chair

Officers Elected

The following officers were elected: President, Dr. F. Forchheimer, Cincinnati; vice-president, Dr. J. George Adami, Montreal; secretary, Dr. George M. Kober, Washington (reelected); recorder, Dr. S. Solis Cohen, Philadelphia (reelected); treasurer, Dr. J. P. Crozer Griffith, Philadelphia (reelected); member of council, Dr. George Dock, New Orleans.

Etiology of Subacute Infective Endocarditis

DR. E. LIBMAN and DR. H. L. CELLER, New York: During the past eight years we have studied 43 cases of subacute infective endocarditis, in 36 of which blood cultures were made during life. The cases varied in duration from four months to a year and a half, and in nearly all the onset was insidious. Fever occurred in all. Other frequent symptoms were sweats, malaise and gastric or intestinal disturbances. There were progressive weakness and emaciation, and the spleen was nearly always enlarged and palpable. There were pains in the joints, bones and muscles. Painful erythematous cutaneous nodules appeared to be pathognomonic. No patient recovered. Except for one case of infection by the influenza bacillus, there have been found in the blood of these cases two types of organisms, the one resembling the other quite closely. These organisms resemble the pneumococcus in certain respects, but most of them more closely resemble the streptococcus. These organisms, when found in the blood, seem to be diagnostic of the disease.

DISCUSSION

DR. FRANCIS P. KINNICUTT, New York: As I understand Dr. Libman, the prognosis in these cases depends largely on the results of the blood culture. If this disease can be proved to be infectious and due to the organism he describes, the prognosis must be extremely unfavorable. If we can determine the prognosis by means of blood cultures, that should be a useful means at our disposal.

DR. JAMES B. HERRICK, Chicago: I would like to ask Dr. Libman in what proportion of cases was there a history of valvular lesions preceding the chronic endocarditis? Also, what relation does the organism he described bear to the so-called organism of rheumatism?

DR. FRANK BILLINGS, Chicago: My experience with cases of chronic infective endocarditis agrees with that of Dr. Libman in regard to the clinical course of the disease and the fatality of it. Last year we reported 15 cases of this type, and since that time we have had 10 or more. One finds the disease more prevalent than is commonly supposed. The disease may be mistaken for malaria, subacute rheumatism, typhoid or tuberculosis. I do not think one can make a diagnosis of the condition by taking blood cultures. One may say that he has a case of chronic infective endocarditis to deal with, but one must remember that some of the very important diagnostic

symptoms are absent at the beginning of the disease. The blood cultures will certainly help us in determining the various forms of endocarditis.

DR. E. C. ROSENOW, Chicago: I am sure we are dealing with the same disease, although in our studies to differentiate the organisms we differ slightly in the smaller details. During the first year of this work I thought I was dealing with the *Streptococcus pyogenes*. Further studies, however, during the last two years have convinced me that I was dealing, not with the streptococcus, but really with a modified pneumococcus.

DR. F. FORCHHEIMER, Cincinnati: It seems to me the most important outcome of this discussion is the fact that one observer here has isolated a pathogenic organism and another observer has verified his findings in a disease which we have been taught to believe was due to a number of different organisms. If this is correct, then we have made an enormous step forward in the recognition of this disease. I have seen a large number of cases which clinically would be considered under the head of this form of endocarditis. I have had a number of cultures made, and I have found a large number of organisms. Some of my patients have recovered. Evidently we are dealing with a different form of endocarditis.

DR. LIBMAN: One should expect a fatal termination in every case in which he finds this organism in the blood. In all the cases that I have had the disease has been superimposed on previous cardiac disease. As to the relationship of the organism to the so-called organism causing rheumatism, I cannot answer, as no bacteria have been found in the blood in the latter condition. As to the question of other means of diagnosis, we have made studies of the blood microscopically with the hope of finding certain cocci, but we have been unsuccessful. When these organisms were not found in cultures, they were not found otherwise.

The Commoner Types of Functional Cardiac Murmurs

DR. WILLIAM S. THAYER, Baltimore: During the past seven years I have been especially interested in studying cardiac murmurs in individuals who appeared to be perfectly normal. A cardiac murmur is but one and sometimes an unimportant one of the links in the chain of evidence leading to the recognition of disease of the heart. Certain cardiac murmurs are present normally in a large proportion of healthy young people. The common forms of these murmurs are: (a) The basic systolic murmur, heard best in the third left interspace, and often all over the area in the recumbent posture. This murmur disappears in the erect posture or full respiration. (b) The systolic murmur, sometimes limited to the apex, sometimes heard all over the cardiac area in the recumbent posture, disappearing in the erect posture. (c) The cardiac respiratory inspiratory murmurs. The commoner functional murmurs, those heard in healthy individuals, should be carefully distinguished from those other murmurs which may arise at various orifices, without actual valvular disease, but, nevertheless, as a result of pathologic changes in the heart muscle or in the blood. The anemic murmurs, systolic and diastolic, depend on the weakness of the heart muscle. A familiarity with the cardiac murmurs common in the normal individual is at least as important as an acquaintance with those murmurs which are associated with cardiac disease.

Epidemiology of Poliomyelitis

DR. JOSEPH COLLINS, New York, read a paper which will appear in THE JOURNAL.

Pathology of Poliomyelitis

DR. B. SACHS, New York: The examination of pathologic specimens from cases of acute poliomyelitis bears out the toxic character of the disease process. It is vascular in origin, not confined solely to the area of the anterior spinal artery, as was once believed, but involves the central gray matter and almost the entire cross-section of the cord; at times it involves the lower portions of the brain axis. The disease expends its force chiefly on the ganglion cells of the anterior horns, so that there is still much justification for retaining the old name, poliomyelitis anterior.

DISCUSSION

DR. M. H. RICHARDSON, Boston: The State Board of Health of Massachusetts began an investigation of this disease three years ago. In 1907 there were 235 cases; in 1908, 185; in 1909 the cases numbered nearly 1,000. That is not essentially a city disease, but rather a rural or suburban disease. Any community which has a severe epidemic one year does not necessarily have a severe one the next. The seasonal incidence of this disease is interesting. In this climate the disease occurs between the months of May and November; in the southern hemisphere it prevails from March to May. In writing to the medical officers in the southern cities and in Cuba a curious fact came out, namely, that the disease in Cuba also had a seasonal incidence from May to October. This shows that temperature alone cannot account for the incidence. We wrote to several institutions in the state in which children are kept, and another curious fact came out, namely, that among 3,600 children in these institutions in the state only one case was found in a child under fifteen years of age. This is interesting in proving that children living in these institutions and protected from those who have the disease do not get it.

A circular letter was sent to physicians in the state recommending that the cases be quarantined and that hexamethylenamin be administered. In every case that came to autopsy in Massachusetts there seemed to be a definite relation between the fatal cases and an enlarged thymus gland. I should like to ask if that is a common experience with others here who have studied the disease.

DR. B. SACHS: In performing autopsies on these cases other organs besides the thymus gland will yield evidence of a general infection. In the lungs frequently will be found a bronchopneumonia. The liver and the spleen will show distinct evidences of a general infection. In one case I saw every gland in the body was found to be enlarged.

Congenital Syphilis of the Heart

DR. A. S. WARTHIN, Ann Arbor: I wish to call attention to the diffuse fibrosis of the myocardium due to congenital syphilis and the relation of the congenital fibrosis of the heart to cardiac insufficiency in young and early life. Cardiac changes occur in all cases of congenital syphilis in which the liver shows the changes characteristic of congenital syphilis. Infantilism and delayed puberty are associated with this form of heart lesion.

(*To be continued*)

ILLINOIS STATE MEDICAL SOCIETY

Sixtieth Annual Meeting, held at Danville, May 17-19, 1910

The President, DR. J. L. WIGGINS, East St. Louis, in the Chair

Addresses of welcome were delivered by Hon. Louis Platt, mayor of Danville, and by Dr. Benjamin Gleeson, president of the Vermillion County Medical Society. President Wiggins responded to these addresses.

The New Officers

The following officers were elected for the ensuing year: President, Dr. Alfred C. Cotton, Chicago; president-elect, Dr. W. K. Newcomb, Champaign; vice-presidents, Drs. J. W. Hamilton, Mount Vernon, and J. E. Stubbs, Chicago; treasurer, Dr. E. J. Brown, Decatur, reelected; secretary, Dr. E. W. Weis, Ottawa, reelected; delegates to the American Medical Association, Drs. W. F. Grinstead, Cairo; E. W. Weis, Ottawa; S. C. Glidden, Danville; J. E. Allaben, Rockford; J. L. Wiggins, East St. Louis; Albert L. Brittin, Athens; alternates, Drs. G. W. Greea, Chicago; George F. Allen, Aurora; W. E. Shallenberger, Canton; George F. Butler, Chicago; Frederick A. Tice, Chicago, and M. S. Marcy, Peoria.

Aurora was selected as the place for holding the next annual meeting.

Medical Treatment of Pelvic Diseases of Women from the Standpoint of the Surgeon

DR. J. F. PERCY, Galesburg: My conception of a medical pelvic case is one in which there is infection, misplacement and distress without fixation. Fixation is Nature's slow way of improving local conditions in the pelvis until either the menopause or surgery removes the conditions which make the fixation necessary. Surgery has won some of its greatest triumphs in the cases where inflammatory fixation was substituted for surgical fixation. Surgery has done some of its worst work or gotten almost negative results in cases of infection. On the other hand, the medical practitioner, in attempting to treat cases, has converted many of them into major surgical cases. The average pelvic case complains more of backache than of any other symptom. There are other adjuncts to the successful treatment of this class of patients than mechanical or medical procedure. The two most important are physical and sexual rest and second, freedom from worry.

DISCUSSION

DR. CLIFFORD U. COLLINS, Peoria: I have very little faith in the local treatment of pelvic diseases. I have held to the views advanced by Dr. T. J. Watkins, who, in 1905, called attention to the inefficacy of vaginal douches and iodin applied to the vaginal vault and tampons put in the vagina for the treatment of inflammation of organs high up in the pelvis, and which have an entirely different blood supply. Such treatments may do good for a time, but the relief is not permanent. I find it advantageous in these cases to call to my aid the internist either before or after operation.

DR. S. C. STREMMEL, Macomb: I want to emphasize rest in the pelvic infections of women. I know of no form of local treatment which does any good in the treatment of these pelvic infections in women. Rest is the best form of treatment for inflammation or infection anywhere, and where it can be possibly secured it may alone do the work.

DR. EDWARD BOWE, Jacksonville: In the majority of women who have become neurasthenic from injuries in labor, or in whom a pathologic condition has existed for some time, the neurasthenia has become fixed, and local treatments will only exaggerate the condition and create a degree of introspection bordering on psychasthenia. The best treatment is rest.

DR. W. F. GRINSTEAD, Cairo: Both the physician and the surgeon are apt to go to extremes and see everything from their particular standpoint. The physician gets in his good work in these cases in the acute stage. He tries to effect a cure before the condition becomes surgical, because in the beginning most of these conditions are medical. When we have an infection that has gone on to the chronic stage, which involves the cervix, or has extended into the corpus or into the tubes, the physician is wasting his time as well as the means of the patient in attempting to restore that patient to health by the usual medical means. We have then a condition which must be relieved surgically.

DR. CHANNING W. BARRETT, Chicago: The question is one of close study of the pathology of pelvic disease. A patient with pelvic disease is not going to be cured purely by rest, because there are a number of conditions which will not be affected by the rest treatment. The rest treatment is an aid. Pelvic disease is not going to be cured altogether by operative measures because there are a lot of conditions which surgery would not help but injure.

DR. M. S. MARCY, Peoria: Dr. Percy in his paper made the statement that the physician who treats these patients by local means is imposing on them. I would like to ask him if the physician imposes on a patient when he can by local treatment relieve a backache, a severe pain on the top of the head, etc.

DR. J. F. PERCY: In reply to the remarks of Dr. Marcy, the point I tried to make was with reference to the value of fixation. We should simply follow Nature's methods. Nature fixes these structures for two purposes: first, to get a chance at the infection, and second, to hold the parts as nearly in the anatomic positions as they were when the infection began.

Two Thousand Blood Examinations for Hemameba of Malaria

DR. T. M. ADERHOLD, Zeigler: To avoid errors, accept nothing but the microscopic diagnosis. Anything which lowers the vitality of the individual, whether fatigue, heat, cold, or other disease, predisposes him to malarial infection, or to a relax if he already harbors the parasite. In the locality where these observations took place malaria was not as prevalent either as a primary disease or complicating other diseases, as it was thought to be by the profession of the locality. If a person has more than one attack of malaria within a year, the attacks after the first one are more liable to the relapses than reinfections. All malarial patients should be advised to take three months' treatment. Malaria complicating other diseases should be treated as though no other disease were present until the acute symptoms subside, and then the treatment should be modified. A promise of cure in malaria should not be given until the patient has been more than one year without symptoms.

Some Diabetic Obiter Dicta

DR. S. T. ROBINSON, Edwardsville: We should bear these diabetic facts in mind: While at the beginning of treatment there is intolerance of carbohydrate, so an abrupt and radical reversal of diet may produce intolerance also of proteid. Thus there will be a double intolerance and the trouble deepens. But it is wholly on the establishment of a tolerance of proteid that success depends; for it is only after a more or less severe proteid diet that tolerance of carbohydrate will be regained. Once this has been accomplished, the urine may begin to run sugar-free. If now, with tolerance of such a diet fully established, some weight is gained, he has made a distinct stride forward. Even more notable, if with the same diet, and a urine continuously sugar-free, there is secondarily some loss of flesh, he has made much greater progress, for it will be found that he can again assimilate an appreciable quantity of carbohydrate. Such results are, however, seldom obtained by simply directing the patient to avoid sugar and starch, and to live mostly on meat, or by handing him a printed diet list. To-day a technic in this matter has developed that calls for much special training. The surgeon exacts a well-appointed hospital for his operations, so the physician, who must guide and educate the diabetic through a maze of chemical, physiological and dietetic technic, will demand and receive the same helps.

The Technic and Value of the Wassermann Test in the Diagnosis and Treatment of Syphilis

DR. W. T. MEFFORD, Chicago: The technic is so simplified that all physicians can mix the materials and define the results. By the test one is enabled to diagnose active syphilis in all stages, to know whether treatment is being carried on successfully, and how long it should be continued, or when to begin treatment in late syphilis. Its greatest value is to the internist, enabling him to differentiate many conditions presenting complicated clinical symptoms. Active syphilis is often present with many chronic or long drawn-out diseases, as tuberculosis, diseases of the liver, typhoid fever and artery diseases, etc.

DISCUSSION

DR. F. G. HARRIS, Chicago: The technic of this reaction is difficult and all the attempts made to modify it with a view to simplifying it have simply created confusion and have brought the Wassermann test in this country into more or less disrepute. The technic of mixing solutions and determining whether one hemolyses or one does not is simple. When we get a tube that hemolyses it may show negative, while if we let another man make the test it may show positive. I am opposed to the drop method of doing a Wassermann. We know that this is a quantitative reaction, and where we are working in drops we are working with unknown quantities.

DR. ROBERT H. BABCOCK, Chicago: The value and necessity of the Wassermann test in ordinary clinical practice have been borne out by my experience this winter. Of a number of cases thus tested, one was a combined pulmonary tuberculosis with aortic insufficiency, the man having attacks of hemoptysis. Suspecting there might be a syphilitic basis, I had the test made, and the reaction was positive. He was put on mercury and his physician reported within three weeks marked improvement, with cessation of the hemoptysis.

Bacteriology and Pathology of Joint Infections

DR. E. E. IRONS, Chicago: In addition to infections of the joints resulting from trauma or direct extension from an adjacent focus of suppuration, or associated with certain specific diseases, such as syphilis and tuberculosis, lesions of the

joints, periosteum and tendon sheaths may occur in practically all the acute infectious diseases, either as an incident in the course of the disease, or as a more or less remote sequel. The pathologic changes in the joint depend on the extent of involvement of the articular and periarticular tissues, the duration of the active stage of the infection, and the relative virulence of the infecting agent.

(To be continued)

OHIO STATE MEDICAL ASSOCIATION

Sixty-fifth Annual Meeting, held at Toledo, May 11-13, 1910

The President, DR. W. H. SNYDER, Toledo, in the Chair

The officers elected were named in THE JOURNAL, May 21, page 1700.

Causes and Operative Treatment of Sterility in the Male

DR. FRANCIS R. HAGNER, Washington, D. C.: Sterility in the male is due, first to aspermia; second, to azoospermia; third, to oligospermia; fourth, to anatomic abnormalities which prevent the passage of semen through the urethra; fifth, to stricture of the urethra. Men with double undescended testicles are almost invariably sterile; and also those whose testicles have received serious injury, causing destruction of the secreting structures or occlusion of the efferent ducts. This later is a condition which obtains in epididymitis, the inflammatory exudate and presence of abscesses in the epididymis, with the consequent formation of scar tissue cause an occlusion of the efferent ducts of the epididymis. Abscess formation in acute gonorrheal epididymitis is much more common than is generally supposed, as in 48 cases that I have operated, abscesses were demonstrated in 80 per cent. Frequent masturbation and sexual excesses, syphilis and tuberculosis, are frequent causes of sterility. Another cause is the *x*-ray. The principal cause of sterility in the male, however, is bilateral gonorrheal epididymitis. In this disease the globus minor is the portion of the epididymis most involved, and it is in this portion that occlusion has the most dangerous results, as there is but one efferent duct, while in the globus major the efferent ducts are numerous, and the obstruction of one or two would still leave other channels. Dr. Quinby of Boston has tied off the vas deferens in guinea-pigs at its exit from the globus minor, and then made an anastomosis between the globus major and the vas above the ligation, in the method recommended by Martin of Philadelphia. In from 10 to 27 days, 3 out of 4 pigs thus operated on showed spermatozoa in the fluid ejaculated by means of electric stimulation. In dogs spermatozoa reappear in from 6 to 8 days.

Anastomosis of the vas deferens is performed by making an incision through the skin and coverings of the epididymis, which is approached from the outer side so as not to wound the spermatic artery. The artery of the vas is pushed aside and a one-half inch incision is made in the vas deferens on a level with the globus major, along its axis, care being taken to get into the lumen of the tube. A portion of the globus major is picked up between two fine forceps and an elliptical piece removed to correspond with the incision in the vas deferens. Four sutures are inserted by curved intestinal needles, one at the upper angle of the wound joining the vas and the cut surface of the epididymis, one at the lower angle, one at the outer and one at the inner side. When these are approximated, a perfect little pocket is formed by the spreading out of the cut vas deferens and the elliptically cut globus major. The wound is then closed and dressed.

Features in the Surgical Treatment of Gastric Ulcer

DR. M. D. HAINES, Cincinnati: The stomach, duodenum, pancreas and liver are intimately related embryologically, anatomically and physiologically, and it may be concluded, therefore, that they are intimately associated pathologically, and that a serious lesion, such as chronic gastric ulcer, will necessarily influence in a greater or lesser degree the functions of the pancreas and liver. Kaufman showed that chronic cholecystitis with acute exacerbations always has a direct influence on ulcer; conversely, alterations in stomach secretions cause acute exacerbation in cases of chronic cholecystitis. It is a well-known fact that mental conditions influence the bodily secretions in general, examples being the influence of the pregnant uterus on the stomach, and Opie's well-known explanation of pancreatitis. It may be concluded, therefore, that the stomach in its secretory functions is no exception to the general physiologic laws, regulating the secretion of organs in general. In view of these facts, in a number of instances I have drained the gall-bladder in conjunction with operative procedures instituted for the relief of chronic ulcer of the stomach. My patients have done better after operation than when a mere gastrojejunostomy or other operative procedure had been done on the stomach for the relief of ulcer.

DISCUSSION

DR. R. B. HALL, Cincinnati: I have some knowledge of Dr. Haines' work in adopting this method of treatment, and his patients recovered better than when drainage was not used. I have drained the gall-bladder in a few instances, and the patient makes an easier and smoother convalescence.

DR. MEANS, Columbus: I can recall some cases in which there might have been some relief to my patient had I drained the gall-bladder. For instance, in the last six months I did a gastrojejunostomy, and the patient within 24 hours from the operation began retching and vomiting bilious matter, and eventually died. It is barely possible that had drainage of the gall-bladder accompanied the operation, the patient might have been relieved, and yet I am not clear as to the theory.

(To be continued)

AMERICAN THERAPEUTIC SOCIETY

Eleventh Annual Meeting, held at Washington, D. C., May 5-7, 1910

Election of Officers

Dr. Harvey W. Wiley, Washington, D. C., was elected president. The following were reelected: Drs. A. D. Blackader, Montreal, Howard van Rensslaer, Albany, N. Y., and Robert T. Morris, New York, vice-presidents; Dr. Noble P. Barnes, Washington, D. C., secretary; Dr. A. Ernest Gallant, New York, treasurer, and Dr. P. B. Porter, New York, editor of the transactions. The next place of meeting is to be Boston, in May, 1911.

President's Address: The Progress of Therapeutics

DR. JAMES C. WILSON, Philadelphia: At the beginning of the last third of the nineteenth century the study of causes formed a sure foundation in the facts of science, and empiricism in therapeutics gave way to rationalism. Half a century has not yet elapsed, and the art of healing shows signs of being revolutionized. The modern theories of infection and immunity are established on unassailable facts. The history of the advance of medicine would be but a series of disconnected episodes were it not that it teaches us that here, as in other fields of human endeavor, knowledge ripens slowly, and that failures are the stepping-stones to success. It teaches us another lesson worth the knowing, namely, that the control of efforts can be compassed only through a knowledge of their causes. More than two thousand years of empiricism before reason came to her own in medicine! There were charms and incantations and pilgrimages and votive offerings, but no calamity of plague or pestilence was averted, and no man who was really sick was made well. Drugs there were of all kinds, and many of them potent, but "Not poppies nor mandragora; nor all the drowsy syrups of the East" could touch the ills of mankind at their source. Jenner alone in all time before the era of bacteriology—our era—applied the knowledge of causes to preventive medicine and wrought the wonder of a rescued world. To-day we watch the effects of the antitoxin made possible by the work of Klebs and Loeffler, or those which follow the administration of Flexner's serum, and experience the sensation of having witnessed a miracle. In later times there has been less and less of indirection and a progressively increasing tendency toward practical results. Specialism and organization are complemental. Without the one the other cannot exist, and the new medicine is the product of this union. A comprehensive survey of the work done by the members of this society individually and collectively discovers here also a well-defined tendency to specialism. Three main therapeutic trends have been differentiated: First, the Hippocratic medicine, in which the forces

of Nature other than drugs play the most important rôle; second, the subject of psychotherapy and re-education in the management of some of the functional neuroses; third, the general study of therapeutics as comprising the empiric use of drugs, on the one hand, and the rational employment of causal remedies on the other. Our work consists in the application of the means to the end, and the time is now at hand for us to enter on the latest phase of applied therapeutics from this point of view, namely, rational therapeutics based on the latest results of the scientific study of the causes of disease, serum therapy, opotherapy, and the use of bacterin.

The Treatment of Pneumonia

DR. ALEXANDER MCPHEDRAN, Toronto: It is incorrect to call pneumonia a fever, as is now often done. The disease is only one phase of pneumococcic infection, and in it there is a local, as well as a general infection. Death almost always occurs through the vascular system, the vessels, as well as the heart, being affected; and is due to the depression of the circulatory center in the medulla caused by the toxic albuminoid of the pneumococcus of cardiac failure. There are two groups of cases, the asphyxial and the syncopal. In the first, which is much the more common form, the venous system is surcharged with blood and the arterial undercharged. In the second, all the organs, including the heart, are anemic. In these cases, too, the right ventricle may be found distended, but this probably occurs only in the throes of death. In both classes of cases the aim of treatment is to raise the blood-pressure. There is no specific for pneumonia, and our ability to treat it has not kept pace with our knowledge of the features of the disease. The mortality is extremely high among urban populations, and I have observed that this is especially the case in two cities, Chicago and New York. The two most important causes of this appear to be the excessive heat in the houses and the lack of proper clothing for protecting the body. As regards the matter of prophylaxis, two diseases are particularly productive of pneumonia, measles and influenza, and very careful after-treatment in these would seem to have considerable effect in warding it off. The so-called curative treatment by means of a vaccine or serum has not as yet proved very satisfactory. If a cure is to be effected the agent of this character employed must be a bacterin rather than an antitoxin. A most serious difficulty in this kind of treatment is that there are various strains of pneumococci, and to have it efficient we should know the particular strain that is present in any given case, and then have a bacterin especially adapted for that form. At present, therefore, we have to rely on symptomatic treatment, or, as we had better call it, treatment of the patient. The usual essentials are complete rest, good nourishment, and plenty of fresh, cold air. On the whole, the latter is better than anything else as an element of success. In my experience the results are better in hospital than in private practice, because in hospitals the patient is under the constant supervision of a trained physician. I think too little opium is given in this disease. There is no cardiac tonic equal to opium and its derivatives, and in some cases no remedy but this will produce the desired effect. The cases in which opium is dangerous are not those of pure pneumonia, but rather bronchopneumonia. In the cases in which venesection is indicated this must be early and free in order to be effective.

Malarial Infections in the Canal Zone

DR. F. N. SHOOK, U. S. N.: In this region the most important malarial infection, from the standpoint of diagnosis and prognosis, is the estivo-autumnal. Single tertian and double tertian infections are common, but quartan very rare. The principal types of estivoautumnal infections may be classified as (1) mild; (2) severe; (3) mixed; (4) pernicious, including the hyperpyretic type. The experience of physicians on the Isthmus emphasizes the following points: (1) In tropical malaria quinin should be given either in solution or capsules, as tablets may not be absorbed; (2) if properly administered, hypodermics of quinin rarely cause abscess; (3) in cases of malarial fever in adults in the tropics which do not show pernicious symptoms the treatment with an initial dose of twenty grains of quinin, preferably in solution, followed by ten grains three times a day, is almost uniformly successful; (4) in the treatment of malarial fever in pregnant women in the tropics the safest rule is to disregard the pregnancy and treat the malaria in the usual manner; (5) after surgical operations in malarial districts in the tropics pernicious malarial fever may develop unless a prophylactic course of quinin is first given.

Important Therapeutic Indications in the Treatment of Typhoid Fever

DR. J. BLAKE WHITE, New York: To the extent that we succeed in modifying the intestinal morbific process will we not only lessen the thermic changes attending the disease, but also prevent the various complications formerly so often encountered. As the fever apparently has its origin in the intestinal inflammation, and the absorption of specific toxins, the first therapeutic indication is in the direction of the use of remedies which have the essential quality of modifying this condition. No disease, in my opinion, is more manageable than typhoid fever, and I have yet to note as prompt or more constant effects from any kind of treatment in any other affection than those resulting from intestinal antiseptics in typhoid. As soon as the diagnosis is made, or earlier if there is any doubt about the matter, the combination used by Woodbridge should be given, though in somewhat larger doses than he recommended. The best manner of administering the remedies is in tablet triturates, each tablet to be followed by two or three swallows of some pure spring water, not aerated. After some modification of the fever is observed larger doses of the antiseptic may be given in capsules. Should the case not be seen until the patient has become delirious and internal medication is impracticable, I give sodium sulphoborate hypodermatically, and subsequently begin the internal antiseptic treatment as soon as the patient's condition permits. At an early stage, about the end of the second week, when, with rare exceptions, the temperature declines under the antiseptic treatment to normal, I usually give some alcoholic stimulant, as well as strychnin, in order to anticipate the debility likely to ensue after such fall. The practice of cold tubbing cannot be too strongly condemned, as it is too exhausting to the patient, and is also irrational, since this method of reducing the temperature is not intended to have, and never can have, any effect on the pathological causes of the hyperpyrexia. The simple temporary reduction of temperature has little advantage, and for the toxemia from local lesions and the general blood dyscrasia we have no better resource than antiseptic medication, the result of which is a permanent reduction of the fever. I am willing to admit, however, that ablutions have some useful application in strengthening the vital powers, and therefore approve of and practice regular lavations with sterile water and alcohol, the water being tempered to the enduring capacity of the patient. It is of vital importance that regular function of the bowels should be kept up throughout the illness and convalescence, and under the antiseptic method laxatives or rectal irrigation are not infrequently called for. The maintenance of the nutrition is, of course, of the utmost importance, and as to the dietary, eggs, milk and light meat broths may be given. I permit cereals, well boiled, at any time, and the resort to solid food just as soon as the patient's condition warrants it; generally at the end of the second week. In the management of typhoid much depends naturally on the ability, vigilance and devotion of the nurse.

The Treatment of Leukemia by the Roentgen Ray

DR. REYNOLD WEBB WILCOX, New York: The case here reported had apparently lasted about ten years when first observed on Sept. 4, 1909. The patient was a male, 29 years old. The pallor of the skin and mucous membranes were profound, and the spleen, which was hard, occupied the whole of the left abdominal cavity, extending two fingers' breadth to the right of the umbilicus. There was no tenderness over the flat bones, and no enlarged glands were felt. In the use of the *x*-ray, under the direction of Dr. Carl Beck, a hard tube was employed, with fifteen minutes' exposure over the spleen, two or three times a week. Iron and arsenic were also given.

Blood counts made from time to time showed, for the most part, a progressive improvement in the condition of the blood, and on April 28, 1910, the lower border of the spleen was but two finger breadths' below the free border of the ribs. The pallor had largely disappeared, and for the preceding two weeks the patient had engaged in active employment. In this instance the massive enlargement of the spleen, taken in connection with the absence of tenderness over any of the bones, and of any enlargement of the lymphatic glands, would indicate that this particular leukemia was of the splenic type, or possibly of the splenomedullary form sometimes called myelogenous. In this variety the Roentgen ray appears to be more successful than any other mode of treatment, though iron and arsenic are still believed to be of some service.

High Frequency Currents in the Treatment of Arteriosclerosis

DR. THOMAS E. SATTERTHWAITE, New York: Unless one has a static machine, a high frequency coil is best adapted for this kind of treatment. The powerful waves of the static form of electricity cause short waves of vibration in the capillaries, promote metabolism in an extraordinary way, and do no harm. In my experience, a diminution in the arterial pressure is the regular sequel to the use of the high frequency current, but the seances should not be prolonged beyond the time at which the pressure falls to normal. I have found that while the pressure may not always be reduced at each sitting, there was in all instances a progressive decline under the treatment. This should be given two or three times a week, or until the blood-pressure has fallen to the normal or nearly to it. It has sometimes been advised to use the faradic current as an adjuvant. Intestinal atony is often a complication of arteriosclerosis, and this current, applied over the abdominal walls, may be very helpful in relieving the constipation. In addition, mercurials, iodids, iron and arsenic should be employed according to the indications which may be present in any given case.

The Further Study of Diabetes as an Infectious Disease

DR. ALFRED KING, Portland, Me.: At the last meeting of this society I expressed the opinion that diabetes mellitus is an infectious disease, due to the presence of the yeast fungus, *Saccharomyces cerevisiæ*, and though, during the year that has since elapsed I have not had the opportunity to experiment on animals or complete my investigations, yet, with considerable additional experience, I have found nothing to disturb my confidence in the theory or my faith that it will be established. I have now examined forty patients and have obtained a pure fungus from the blood of all but one of these.

The Range of Activity and the Untoward Effects of Certain Spinal Analgesics, Based on Two Thousand Administrations

DR. W. B. BABCOCK, Philadelphia: The two thousand cases included all kinds of operations in all parts of the body. The safety of spinal, or, more properly speaking, nerve-root, anesthesia depends largely on the height in the spine of the nerve-roots which it is necessary to narcotize for any given operation. The higher up they are, the greater the danger. The delicate thing is to have the solution sufficiently light to affect the sensory nerves without involving the motor nerves. It can be made lighter by the addition of 10 per cent. alcohol to 4 per cent. of solution. By regulating the position of the patient's body it is possible to arrest the anesthetic at any point of the spine desired. In all operations in the upper part of the body it is essential to be prepared to perform artificial respiration at any moment. In the cases embraced in this report various anesthetic agents were employed.

Senile Epilepsy

DR. EDWARD D. FISHER, New York: Under this head I include only those cases occurring in adults (who are neither alcoholics nor syphilitics), especially those in the period of life when physical decline has already begun to manifest itself. The underlying etiological factor is arteriosclerosis, distinguishing it absolutely from essential epilepsy. There may have been few, if any, preliminary symptoms, beyond some fatigue formerly unusual, or a slight weakness of memory, until, as out of a clear sky, an epileptic attack takes place. The course of the disease varies somewhat with the course of life pursued after the first attack. The succeeding ones vary very much in frequency in different instances. After a seizure there may be a localized serous effusion, but this soon clears up, leaving no trace of paralysis or other impairment. There is probably a general sclerosis of the cerebral arteries, and the attacks are no doubt due to temporary occlusion of the vessels —possibly to venous stasis. The general tendency of the disease is towards dementia or premature senility, frequently accompanied by depression. The seizures may at times be very severe, and, in fact, may end in cerebral hemorrhage of the usual type.

The Routine Use of Autogenous Vaccines (Bacterins) in the German Hospital, Philadelphia

DR. J. C. DACOSTA, Philadelphia: Fifty cases are embraced in the report, of which 17 were classed as septicemia and 33 as local suppurative lesions. By them the following conclusions are suggested: 1. Autovaccines are of distinct service in the treatment of general septicemia, especially in post-operative cases in which surgical measures have been ineffectual. Vaccines are useless in combating a sepsis so intense as to stifle resistance, and in such instances the clinical severity of the infection, rather than the identity of the offending bacteria, is the criterion of prognosis. 2. From the laboratory viewpoint, the prognosis is better in toxemias than in proven bacteremias, and the outlook is hopeless when streptococci invade the circulating blood. 3. Autovaccines produce the best results in local infectious lesions. 4. In the class of infections under consideration autogenous emulsions should be used invariably rather than stock preparations, except in the presence of some acute emergency. 5. The opsonic index cannot be relied on as an indicator for inoculation and reinoculation, which should be governed by the general condition and local signs. 6. The best results follow a moderate initial dose of vaccine, with subsequent doses of greater potency and intervals of from three to seven days between the inoculations. 7. The larger one's experience with inoculation work, the more must one realize how imperfectly the true scope and limitations of vaccine therapy are understood.

The Delayed Menopause; its Dangers and Therapeutic Indications

DR. A. E. GALLANT, New York: In women with healthy reproductive organs the menopause should be established abruptly, at an age dependent on the age at which menstruation commenced; early, if begun late, and late if begun early. The menopause is "delayed" whenever menstruation is continued after the "approximate age" (using the approximately determined beginning of menstruation as a guide) and is associated with uterine flexion, version, fixation or neoplasm, or with tubal disease, syphilis, etc. In delayed menopause the greatest pathological danger lies in the presence or promotion of the growth of fibroid or malignant tumors. The contributory dangers are due to delay: 1. The patient fails to consult a physician, refuses examination, or refuses operation. 2. The physician delays examination, fails to diagnose the condition, or fails to recognize the importance of early operation. The danger signals are (1) atypical hemorrhage, (2) discharge, and (3) pain; signals which, if disregarded, will lead to disaster and death. At the "approximate age" the woman has reached the limit of fecundity; therefore the prophylactic removal of a useless and probably tumor-breeding organ is wholly justifiable, and the one sure method of putting an end to all the threatening dangers.

The Treatment of Parasyphilis in the Light of Recent Research; Paresis and Tabes Dorsalis

DR. T. A. WILLIAMS, Washington, D. C.: I believe leptomeningitis to be always present in these cases. In the treatment of syphilis the tendency at present is to rely almost exclusively on mercury. The iodids are considered of service only in dealing with gummata. I am of the opinion that many incipient cases of paresis and tabes may be cured by using

mercurials to the utmost extent which the patient can tolerate. They should be employed by means of inunction or hypodermatic injection, as I have not found administration by the mouth efficient. The important thing is that these patients should be seen early by the neurologist.

SYMPOSIUM ON MATTERS PERTAINING TO THE REVISION OF THE PHARMACOPEIA

U. S. P. 1910; How May It Be Constructed?

DR. O. T. OSBORNE, New Haven, Conn.: In opening this discussion it seems to me I can do no better than to elucidate some of my propositions already in print. As regards my recommendations that the new Pharmacopeia should contain such drugs only as are of positive therapeutic value, the decision as to what drugs are to be retained or deleted; and as to what new drugs are to be admitted, might well be left to a committee of five clinicians selected by the U. S. P. Revision Committee. As to the recommendation that it should give official approval to only the best of the official Galenic drugs, and of the salts of such mineral agents as iron and mercury, this also might be left to the judgment of a committee appointed by the revision committee, but one composed of five clinicians and five pharmacists. Every writer of a prescription, and most assuredly every teacher of materia medica, will approve of the proposition that the new Pharmacopeia should give the most simple titles to all new drugs, especially to the synthetic drugs. The heart-rending and brain-splitting attempt to prevent all possible advertisement of a proprietary drug has been followed by continuous damning all over the country, and has forced the ordering of the drug by its proprietary name, much to the profit of the drug promoter.

[Subsequently, the recommendations made by Dr. Osborne were, with some slight modifications, endorsed by the society and ordered to be transmitted to the new committee of revision.]

Revision of the United States Pharmacopeia

PROF. JOSEPH P. REMINGTON, Ph.M., Philadelphia: The controversy which has been going on recently in the medical and pharmaceutical journals, and even in the public newspapers, concerning the scope of the new Pharmacopeia has developed two clearly marked views. On the one hand, there is a decided movement to curtail the list of articles to be admitted; but a powerful counter-movement has been set on foot to greatly enlarge the number of remedies. Both of these ideas will no doubt be ably championed in the coming convention, but it does not require a prophet's vision to foretell that neither extreme will ultimately prevail, and when both sides have been heard the next committee on revision will undoubtedly admit a selected number of the newest articles and will delete many of the older ones which, in the eyes of many members of the medical profession, have outlived their usefulness. The controversies which have for the most part been carried on in an admirable spirit, have been of great value in clearing the atmosphere, and both physicians and pharmacists will have a much clearer conception of the magnitude of the task before them, though they will have, to guide them, a vast amount of information gathered from all sources. While it will be difficult to always wisely make a proper selection, I have the faith to believe that out of the multitude of counsellors there will come wisdom, and that the ninth revision of the Pharmacopeia will prove to be the best that has been written.

Should the Pharmacopeia Contain Only Useful and Efficient Drugs?

DR. N. S. DAVIS, JR., Chicago: I believe that only useful and efficient drugs should be admitted, and am of the opinion that it would be quite possible for a group of physicians to determine satisfactorily what ones are really useful. Hitherto drugs have been judged by their use, not their utility. I would like also to see an epitome of the pharmacological action of the various drugs inserted in the Pharmacopeia, but suppose we can hardly go as far as that at present. For the good of the physician, as well as the patient, I believe that all compounds should be omitted.

Suggestions for the Pharmacopeia of 1910; a Brief Consideration of the Subject in Its Relation to the Federal Food and Drugs Act

DR. F. P. MORGAN, Washington, D. C.: The three years which have elapsed since this law went into force have offered an opportunity to test the efficiency of the Pharmacopeia as a legal standard, and, as might have been expected, instances have occurred in which the official standards have not proved altogether satisfactory. Among the changes which, in my opinion, would be desirable, are the following: that the proportion of foreign matter permissible in the crude vegetable drugs should be definitely fixed; that powdered vegetable drugs should be admitted; that with hyoscyamus, belladonna and stramonium the requirements as regards mydriatic alkaloids should be made more definite; and that certain tests which have been worked out for copaiba and balsam of Peru should be made official. It is evident, from the standpoint of the efficiency of the food and drugs act, that the larger the number of drugs described in the next Pharmacopeia the better, provided that the drugs are properly standardized. This proviso is of great importance, because the presence in the Pharmacopeia of drugs without standards, or with inadequate standards, is of little or no advantage so far as facilitating the execution of the law is concerned.

Other papers read at the meeting were: "Hexamethylenamin in the Treatment of Otitis Media," by Dr. W. M. Barton, Washington, D. C.; "The Preparation of Tyroid Glands for Use," by Dr. S. P. Beebe, New York; "The Immediate and After Management of the Puerperant," by Dr. Jesse Sharp, Washington, D. C.; "Asthenia Universalis Congenita," by Dr. C. L. Green, St. Paul, Minn.; "The Further Use of Calcium Creosote in Medicine," by Dr. L. Kolipinski, Washington, D. C.; "Some Points in Bacterial Therapy," by Dr. F. E. Stewart, Philadelphia; "Bacterins; Their Present Status in Therapeutics," by Dr. N. P. Barnes, Washington, D. C.

AMERICAN GYNECOLOGICAL SOCIETY

Thirty-fifth Annual Meeting, held in Washington, D. C., May 3-5, 1910

(Continued from page 1714)

Gall-Stones During Pregnancy and the Puerperium

DR. REUBEN PETERSON, Ann Arbor, Mich.: Gall-stones are most commonly encountered in women between the ages of 20 and 35. Gall-stones are more common in women than in men. There are reasons for thinking that child-bearing has something to do with the frequency of gall-stones in women. This was borne out by finding that in 542 patients in whom the gall-bladder was palpated during the course of abdominal operations, gall-stones were found to be present in 64, or 11.8 per cent. The percentage of patients with gall-stones, who had borne one or more children, was 75, as against 65.7 per cent. in women who had no gall-stones. In the present series of pregnant patients with cholelithiasis, in nearly one-third of the cases the onset of the attack was at the fifth month of gestation, or at the time when the uterus is approaching the level of the umbilicus and beginning to crowd the intestines toward or on the bile passages. In the puerperal cases the onset of the attack in one-half of the cases was during the first seven days postpartum. Chills and elevation of temperature, associated with jaundice are frequent in gall-stones complicating pregnancy and the puerperium. In the series studied, there was a surprisingly large percentage of pregnant patients with jaundice, 15 out of 25, or 60 per cent. Only one out of the ten puerperal patients had jaundice. The operative mortality for the 23 pregnant patients was 13.04 per cent. The operative mortality in the puerperal cases with cholelithiasis was 11.1 per cent. In the pregnant patients with cholelithiasis more than one-half of the stones were in the gall-bladder alone; the same may be said of the puerperal cases. It is probable that there is no greater tendency for gall-stone operations to interrupt pregnancy than is the case with other abdominal operations during various periods of gestation. It is advisable, when cholelithiasis complicates pregnancy and the

puerperium, to choose the operative procedure which can be performed in the shortest possible time consistent with the existing conditions. The condition of the pregnant patient as regards the cholelithiasis should be the determining factor as to when the operation should be performed; whenever possible the operation should be postponed until the child is viable. The diagnosis of cholelithiasis during pregnancy and the puerperium will not be difficult in typical cases if the possibility of the complication be borne in mind. Much reliance can be placed on the jaundice which seems to be more prevalent in pregnant than in non-pregnant women with gall-stones.

DISCUSSION

DR. W. F. WAKEFIELD, San Francisco: The relationship between pregnancy and gall-stones is interesting. I believe that a large percentage of women have gall-stones, and the curious thing is that in carefully studying the histories of those women in a large percentage of them I could trace the beginning of the symptoms to pregnancy. I think that about 75 per cent. of the women who complain of symptoms of gall-stone disease will date the beginning of those symptoms back to pregnancy. As gynecologists we are neglecting the gall-bladder. The gall-bladder should be examined every time we open the abdomen, and every time we find stones in the gall-bladder they should be removed at that time. It is a mistake to operate on gall-stones during pregnancy if it can be avoided.

DR. PHILANDER A. HARRIS, Paterson, N. J.: Any one who operates for gall-stone disease in the course of pregnancy may well wonder whether it is right to do the operation at that time or not, but as near as I can understand from the cases reported, I do not think the decision should depend on whether the patient is pregnant or not. I think the decision should be governed by such other conditions as would govern us in the removal of gall-stones or gall-stone disease, no matter whether it occurred in connection with pregnancy or not.

DR. LAPTHORN SMITH, Montreal: I question whether it would be a good thing to operate on a woman for gall-stones who is six months advanced in pregnancy. I think that it is not a good thing to do so at that time because the size of the uterus makes the operation difficult. The pregnant woman should be carried along with morphin and other treatment until she has been delivered, and then she should be operated on for gall-stones.

DR. W. G. WYLIE, New York: I have been watching the gall-bladder whenever I have opened the abdomen through an incision large enough to introduce my hand, and I have found that the percentage of gall-stones is much greater than I had expected. Whenever the gall-bladder is distended with fluid there will be nausea and vomiting after operation, almost without exception in my experience, and when it is flaccid and empty, vomiting is rarely ever severe.

DR. H. N. VINEBERG, New York: A few years ago I was called in consultation in a case of supposed puerperal sepsis. The woman had been delivered ten days before. She was very ill; had a temperature of from 104 to 105 F.; pulse, 120, and complained of pain in the lower part of the abdomen on the right side. She had given no history of gall-stone attacks prior to that so far as one could learn. I examined her carefully and came to the conclusion that the trouble was not with the pelvic organs. I went higher and found a distended gall-bladder. She was transferred to the hospital, was operated on, and the gall-bladder was found full of small stones, with mucopurulent fluid. The woman made a good recovery. I do not agree with Dr. Smith as to the non-advisability of operating on some of these patients during pregnancy.

DR. HENRY T. BYFORD, Chicago: Undoubtedly many women have gall-stones and may have had them for a long time, pregnancy being merely the cause of the first recognizable symptoms.

DR. JOHN F. THOMPSON, Portland, Me.: In January, in my service, I had referred to me from the medical side a patient who was supposed to have had perforation from a duodenal ulcer. The period of illness was about 24 hours. The patient had considerable temperature, and was 3 or 4 months pregnant. The soreness, pain and tenderness gave indications as to the point of election for making the incision. I found perforation of the gall-bladder with stones and pus and some bile, which fortunately were shut off by folds of omentum. The operation was uncomplicated; adhesions were not very dense. With the scissors I removed the edges of the perforation, drained the gall-bladder, and the patient had no interference whatever with pregnancy.

DR. HENRY HOUGH, New Bedford, Mass.: A month ago I was called in consultation to see a woman in a moribund condition. She had been delivered about ten days before. The first week of convalescence was normal, then symptoms pointed to acute cholecystitis. As the woman was moribund no operation was done. After death several quarts of deeply bile-stained fluid were removed from the abdominal cavity which demonstrated the nature of the case. I have operated in two cases of gall-stones during pregnancy. One in a woman of 23 who was 2 months' pregnant; she had stones in the gall-bladder and in the duct. She also had chronic pancreatitis. When I operated she had just recovered from an attack of acute pancreatitis, as was evidenced by extensive fat necrosis in the omentum. Drainage and removal of the stones resulted in a cure. About one month after operation she was delivered of a three-months' fetus. The other woman was 5 months' pregnant and had acute cholecystitis with gall-stones in the gall-bladder. The gall-stones were removed and she made a prompt recovery, with drainage, and went on to full term.

DR. RICHARD C. NORRIS, Philadelphia: Operations for gall-stones during pregnancy should be determined by the character of the cases. If the case is an aggravated one, the woman should be relieved of the gall-stones independent of the pregnancy, but if it is a case in which we can tide the patient over until labor has been accomplished, it is better to do so. We should apply the same principles of surgery to gall-stones associated with pregnancy as we would to women independent of pregnancy.

DR. R. PETERSON: Dr. Norris has presented in a few words the inevitable conclusion that we must operate on these pregnant women and also on the puerperal woman according to the conditions presented by the gall-stones.

Anastomotic Repair of the Ureter

DR. MALCOLM MCLEAN, New York, said that cases may occur in which end-to-end anastomosis is desirable and preferable to implantation into a slit wound. He described a method which offers a means of securing anastomosis, and at the same time providing for the safe conduct of the urine past the point of repair during the first critical hours after the operation.

President's Address: American Gynecology

DR. EDWARD P. DAVIS, Philadelphia: American gynecology had its origin in the crude obstetric practice of fifty years ago. The necessity for repairing the injuries of labor developed the genius of Sims and Emmet, and American ingenuity added a new branch to surgical science. As obstetric surgery has developed and asepsis was introduced, gynecology has become more and more abdominal surgery. This has been the case not only because better knowledge of obstetrics has lessened the injuries of labor, but because women have those abdominal lesions most easily recognized and most frequently occurring. At present, the modern gynecologist operates on men and women alike, the surgeon in turn performing many operations on women. To-day the tendency of development in gynecology lies in the study of the normal relations of the abdominal and pelvic viscera, the determination of the dynamics of the abdomen and pelvis, and the recognition of those causes which produce abdominal and pelvic ptosis. We have learned that the repair of lacerations of the genital tract does not suffice to cure these cases. The pelvic viscera must be brought into such relation with the abdomen and its contents that the dynamics of the abdomen shall maintain health for the individual, and not disease. Modern surgery having conquered the world of technic, seeks other fields of conquest. The operation for cancer seems to have reached its anatomic limitations, but the cause of cancer remains unknown. Gynecology to-day is especially charged with the task of studying the cause and the mode of growth of malignant disease, so that operation may be wisely chosen and performed. The

genital tract of woman gives opportunity to study pathologic processes closely akin to malignant disease. Such are the non-malignant degenerations of the generative organs, of which examples are found in autolysis of the uterus, changes in the Graafian follicles, and corpus luteum, necrobiosis in fibroids, and cystic and calcareous changes in ovarian and fibroid tumors. Protoplasm may thus be studied in its germinal and degenerative changes. The discovery of chorioepithelioma and its identification as a form of malignant disease serve to illustrate this point. Our knowledge of cancer to-day pauses at the phenomena of premature cellular death and degeneration.

In no branch of medicine has so great advance recently been made as in obstetrics. Pathologic chemistry has thrown new light on toxemia and eclampsia and lessened the frequency and mortality of these grave complications of parturition. Obstetrics offers abundant work for the future. Toxemia and eclampsia are but partly understood. It is still not proved that vaginal delivery, after opening the pelvic girdle, is not accompanied by such injuries that abdominal delivery is not better, and even in the repair of lacerations the final word has not yet been spoken. It is still an open question whether in puerperal sepsis we can do more than feed and stimulate the patient. To us is entrusted the physical care of woman in her most important function—the conservation of the race. Our supreme reliance in national crises is the moral sense of the people. But how can this be done unless children be born with a sound brain in a healthy body and trained from the earliest days to a natural life and prompt obedience. If this republic is to endure, its women must bring to its altars not the paste jewels of an artificial luxury, but those gems which made immortal the mother of the Gracchi. Gynecology is an American science, of which America may well be proud. Let us see to it that it serves faithfully the land of its birth.

(*To be continued*)

SOUTH CAROLINA MEDICAL ASSOCIATION

Sixty-second Annual Meeting, held at Laurens, April 19-21, 1910

The officers elected were noted in THE JOURNAL, May 7, page 1555.

Prevention of Blindness

In the House of Delegates Dr. C. W. Kollock, Charleston, made a plea for the enactment of the following bill:

"*Section 1.* Be it enacted by the General Assembly of the State of South Carolina, that should one or both eyes of an infant become red or inflamed at any time after birth, it shall be the duty of the midwife or nurse or person having charge of said infant to report the condition of the eyes at once to the local board of health or county physician of the community in which the parents of the infant reside.

"*Section 2.* That the Secretary of State shall cause a sufficient number of copies of this act to be printed, and supply the same to health officers and health committees, whose duty it shall be to furnish a copy to each person who is known to act as midwife or nurse in the cities and towns for which they have been appointed.

"*Section 3.* Any failure to comply with the provisions of this act shall be punishable by a fine not to exceed twenty-five dollars, or imprisonment not to exceed one month, or both."

President's Address: Need of More Thorough Education

DR. JOHN L. DAWSON, Charleston: I wish to make a plea for the advancement of the education of the medical man. I desire to see in the State of South Carolina a better educated medical student. If you go to our dear old college and look back at its records you will find the theses which were required from students at their graduation and which have been kept by the college. They are remarkable and show a degree of learning that should make the medical student of the present day blush. Many of them are written in Latin, Greek, German and French, and show an amount of research and study beyond the average ability of our present class of applicants for a medical diploma. There are two reasons for this: the first, the men have not the money to take collegiate courses before taking up a medical course, and the second, the young men want to graduate too early. They study medicine to make a living only, by any means in their power, and if this state of things continues medicine will cease to be a profession and become a trade. The tendency is toward specialism, and the passing of that beautiful character, the family physician. In this present day the men in the profession are making a headlong rush after money and reputation, and they have not time for general education. We often hear men say that the study of the dead languages is not necessary for the study of medicine, and that the study of modern languages is not absolutely essential. How many young men starting out to study medicine ever think of studying along other lines? Is the average medical student of to-day the possessor of even an ordinary education, attainable at a high school of college? Money is essential to existence, and the medical man must make his living by his brain and skill, equally as well as the laborer by his muscle and brawn; but brain without cultivation is a poor possession, and the skill of the uneducated is looked on with suspicion. Many of our young men go into medicine for a living too hastily, and as a result we have an overcrowding of the profession.

Every man who raises a son for any profession in life should start with an early education of the boy. Training for the chosen profession should commence with the earliest school days. It would be a splendid thing if each one of us had taken up some special line of study along with medicine—music, art, literature or the languages—whatever is our bent. One needs more than his profession alone to shine in a company of cultivated people. An educated man in a community must elevate the people with whom he associates, and his cultivation raises him in the estimation of his inferiors and he can thereby accomplish much good; it makes his work more acceptable to his equals; it maintains his own self respect. No matter how good a physician one is, how able a surgeon, he needs something more. Cultivation stands for mental gentility. I would suggest that our boards of medical examiners take the matter in their own hands and correct this evil. They should be equally as well qualified to judge of a candidate's general preliminary education and fitness to apply for a degree in medicine as they are to judge of his medical education only. I suggest that this association take this matter up for serious consideration.

Serotherapy of Epidemic Cerebrospinal Meningitis

DR. CHARLES HUNTER DUNN, Boston: Flexner, as one of the committee appointed by the New York health department, investigated the epidemic of 1904 and made a careful study of the pathogenic properties of the diplococcus, showing its brief vitality in cultures, its wide variation in virulence and the rapid autolysis produced by an enzeme which is distinct from the intracellular toxin. Flexner's first experimental work on monkeys and some of the other lower animals did not seem very encouraging toward producing an antiserum, for endotoxins rarely produce sufficient antibodies to neutralize the toxin in an acute infection. But as the diplococcus is easily influenced by unfavorable conditions, and as the curative agent can be applied directly to the lesions, it seemed possible that serotherapy might be successful. It was next demonstrated that immune serum from monkeys would protect infected monkeys. Then a horse was immunized and its serum used for man, as follows: after lumbar puncture, inject through the same needle a quantity of serum equal to the amount of spinal fluid withdrawn. This procedure is carried out on four successive days.

An analysis of 400 cases by Flexner and Jobling shows that the serum treatment of meningitis reduces the mortality from 75 to 25 per cent. This serum is not on the market. It may be obtained without cost from the Rockefeller Institute by anyone who can satisfy Dr. Flexner as to his agility to use it properly, to make the necessary bacteriologic examinations, and to send in an accurate clinical report. Of course, the amount of serum is limited and cannot supply the whole country.

In my series of 86 cases, embracing all types of the disease, 72 per cent. of the patients recovered. These cases, as well as those analyzed by Flexner, show strikingly the advantage of the early use of the serum. Ordinarily, the vomiting, high temperature and mental symptoms disappear rapidly, leaving the rigidity of the neck and Kernig's sign to subside gradually.

The diplococci in the spinal fluid at first become intracellular and then disappear entirely. And last but not least, the occurrence of the much-dreaded sequelæ is greatly diminished.

Pulmonary Tuberculosis: The Persistent Need of Earlier Diagnosis

DR. L. B. MORSE, Hendersonville, made a strong appeal for earlier diagnosis of tuberculosis, rather than a reiteration of the means by which such diagnosis is made. He emphasized the fact that, in spite of all that has been written in recent years, the average physician does not diagnose pulmonary tuberculosis in its incipiency. The reasons ascribed were believed to be largely personal. Timidity in sufficiently exposing the patients to examine them properly was thought to be a common reason for not carefully examining individuals. He condemned the idea that patients do not want exhaustive examinations, and that examinations render patients oversolicitous and introspective. Patients should be told frankly the facts in these cases, as insuring a closer obedience to the necessary change in the mode of life so essential to a cure. Lastly, he enumerated the conditions of life, and of the individual, wherein a careful man would be more apt to look for tuberculosis.

Dont's in Medicine and Surgery

DR. WALTER CHEYNE, Sumter, read the following axioms:

1. DON'T fail to make an exhaustive physical examination in every patient who comes to you. This means heart, lungs, liver, kidneys, abdominal palpation, urine and sputum, when necessary. Your error may not only mean the loss of your reputation, but also the death of your patient.
2. DON'T delay an operation for appendicitis after the diagnosis has been made. Don't be influenced by ignorant people to wait until the patient is in danger of death. Pus walled off or walled in you will drain. The removal of the appendix in most cases may be deferred when drainage is established.
3. DON'T think an examination of urine is made by intuition. Fresh reagents, exact methods which certainly include filtration, are necessary for you to make a positive statement to an insurance company or to a patient.
4. DON'T be surgically careless after a pus case; disinfect as you would after a post-mortem. Pus clings to all tissues; pus germs are not harder to kill than most other germs; therefore, take proper precautions to kill them on your hands and on the places where they originated, if possible.
5. DON'T claim to know every skin eruption you see. Perhaps five men in the United States do know such eruptions. If you are doubtful, say so; it won't hurt you, and may do the patient good.
6. DON'T tell a man he is cured of gonorrhea unless you know. If you don't know and you tell him he is cured, you may cause a woman's death.
7. DON'T think you know all medicine and surgery until you have studied the methods in seven different cities and have practiced conscientiously for twenty-five years. Even then you may turn over in bed at night several times and have doubts as to your knowledge.
8. DON'T feed poll-parrot style in typhoid fever. You can starve a patient to death in typhoid as well as have the fever kill him. Anemia must be combated as well as the fever. Better higher fever than a feeble heart.
9. DON'T forget that scientific knowledge, added to scientific equipment, plus a practical knowledge of human nature, are the trio necessary to professional success.
10. DON'T minimize the value of membership in a medical society. The charlatan cannot get in. Count the number of successful professional men you know who are not members of their state association.
11. DON'T use a drug, unless you know it is necessary. If in doubt, leave out the medicine.
12. DON'T forget in medicine or surgery the Golden Rule, "Do unto others as you would that they should do unto you."

The Present Status of Cancer Education

DR. SOUTHGATE LEIGH, Norfolk, Va., chairman of the Committee on Cancer Education of the Tri-State Medical Association of the Carolinas and Virginia, appeared before the society chiefly for the purpose of enlisting the cooperation of its members in the campaign of cancer education which the committee is instituting in these states. He called attention to the nature of cancer, its wide prevalence and its incurability in the later stages. Cancer, he said, is preventable or curable in at least 95 per cent. of cases if taken in time, and yet, largely from ignorance and misunderstanding on the part of the public, 90 per cent. of cancer patients die. The real problem is the education of the profession and public alike in the prophylaxis and early treatment. He called attention to the good work of the American Medical Association in disseminating knowledge about "cancer quacks," briefly reviewed the work done by Winter in Koenigsberg, Germany, and referred to various papers published in this country. He also discussed the advisability of disseminating useful information to the public through boards of health, public clinics and women's societies, by distribution of circulars, and also by appropriate articles in public press. He emphasized the fact that the hearty cooperation of the general practitioner was most important.

Things the Profession Should Know About Cancer

DR. LE GRAND GUERRY, Columbia, read a paper on this subject.

DISCUSSION

DR. J. S. HORSLEY, Richmond, Va.: The earlier the diagnosis is made, the more difficult it is, but the greater the patient's chance of being cured. Anyone could make the diagnosis in the late stages, but then the case is inoperable and diagnosis can be of no avail. Statistics have shown that the opportunity for cure of cancer by operation decreases with the advance of the disease in almost mathematical precision. For instance, if a cancer of the breast is taken in the early stage, before the involvement of the skin or the glands, radical operation will cure permanently more than 75 per cent. By cure is meant that these patients are well without recurrence 3 years or more after the operation. When the glands in the axilla are involved the percentage drops to 35 per cent. When, in addition to this the skin is involved, the ratio of cure is less than 20 per cent. When the supraclavicular glands become affected there are only from 5 to 10 per cent. of patients cured, and operation is hardly justifiable. Each of these stages represents a definite state in the progress of cancer, which results from delayed operations. It is the duty of the physician to insist on every patient with a growth, the nature of which he does not know, being examined and the diagnosis definitely determined. If he waits until the tumor "develops" he is sacrificing the patient's chances of life with every day's delay. The most prominent single symptom of cancer is the absence of pain. A patient will rush to a doctor with a boil because of pain, but with a growing cancer, which gives no pain until the late stages, the patient will frequently delay consulting a physician until it is too late. If people could be brought to learn that a tumor without pain is more dangerous than a growth with pain, many more lives could be saved. Exploratory incisions for diagnosis of doubtful tumors is always dangerous, unless immediately followed by radical operation. The surgeon should study his own tumors and be his own pathologist, by noting the appearance of the growth at the operating table and following it through the laboratory, noting its microscopic appearance, he will be in a position to decide the nature of a similar tumor the next time he meets it at the operating table, for he will recall the microscopic picture of other tumors that looked and felt like the one he is dealing with. The surgeon should carry practical knowledge of pathology in his own head, and not in the head of some one else, for delay in the pathologic report frequently means that the patient has lost the only chance for permanent cure.

A Plea for Medical Inspection of School Children in South Carolina: Report of the Work at Seneca

DR. E. A. HINES, Seneca: While medical inspection of schools has made rapid progress in many parts of the world, the southern states appear not to have become interested until very recently. New Orleans and Atlanta each inaugurated medical inspection in 1909. Seneca was the first place in South Carolina to put in operation such a system, Sept. 23, 1909. The examining board consisted of two general practitioners, two dentists, an eye and ear, nose and throat specialist and a secretary. This combination, with the assistance of the teaching staff at times, resulted in a thorough examination. In all the more serious cases the children were treated by or on the advice of the family physicians. I examined also a representative number of negro school children; 90 per cent. had bad teeth, skin diseases very prevalent, but other defects were similar in general to the whites. I also examined a representative number of cotton mill operatives' children; 90 per cent. of these had bad teeth; not one had a tooth-brush. Other defects were not very different from previous reports. Laws should be enacted looking to enforced medical inspection in South Carolina.

An Epidemic of Beriberi at Convict Stockade, Ten-Mile Hill, Charles County

DR. ALLEN J. JERVEY, Charleston: Early in March there developed within a fortnight 17 cases, which were diagnosed beriberi, and the patients sent to the state penitentiary as unfit for work on the county roads and as possible sources of infection to the remaining 14 prisoners. They presented about the following pictures: An edema, starting in most cases about the calves of the legs, with some pain, numbness and paresthesia in this region. The edema was not of the boggy type, but seemed resistant to pressure, and extended rapidly until in the most marked cases it had involved thighs, abdomen, scrotum, front of chest and face. The onset was accompanied with a general feeling of lassitude rather than a distinct malaise. Temperature normal; urine negative. In the more advanced cases there was accelerated pulse, or a pulse which after the least exertion would reach 120 and over. These individuals showed a dilated heart and it was hard to distinguish the heart sounds. Relative murmurs and venous pulsations in the neck were observed. The gait was tired, slow and dragging, but there was no ankle-drop or wrist-drop. Knee-jerk was diminished or lost; in one case noted it was increased. Hookworm ova were found in two out of three patients examined; no other intestinal parasites were noted. One-half of the patients showed white fur coating on tongue. There was a general tendency to constipation.

Is beriberi a new disease here, and what is the source of the infection? I think that beriberi is and has been for several years an endemic disease in the low lands of South Carolina. During the past two years I have seen three distinct outbreaks of what I now know to be beriberi. This statement is borne out by my inspection of the previous attending physicians' records, in which I find beriberi called by various names, as "malaria," "acute nephritis," "cellulitis of legs," "myositis," "undiagnosed," "swollen limbs" and "dropsy." The first patient I treated, in 1908, was very anemic and, finding hookworms, I gave thymol and iron, which brought about marked improvement, but possibly the moving of the camp to a higher elevation may have had something to do with the improvement. In September and October there were two deaths, the first from edema of the lungs as the immediate cause, and the second, rather sudden, possibly from involvement of the vagus. He had been complaining for a few days, had edema and pain in the calves of the legs, but did not stop work. Careful postmortem revealed only an increased amount of fluid in the pericardium and abdomen. Four of my patients went to Columbia and the condition was diagnosed by Dr. Pope as identical with that in patients who come up from the phosphate fields and which was spoken of as "phosphate sickness."

The cause of the infection is yet in a theoretical state. The convict camps are high, sanitary and dry, and are well ventilated. The drinking water is pure. The rice theory does not apply, as rice is excluded from the dietary of the convicts. We have in this camp neither heat nor moisture—supposed to be the cause of this disease. Prior to these outbreaks one gang, composed of the more intelligent negroes, who handled the animals and the road machines, was known as the road gang; the others were concerned with the drainage work chiefly; and their duty is ditching water of various depths in the low, foul bottoms that need drainage. The first ones attacked in each outbreak belonged to the ditching gang, and the symptoms appeared about six weeks after each exposure.

DISCUSSION

DR. J. C. SOSNOWSKI, Charleston: There are two types of beriberi—the wet and the dry. As an intern in the city hospital at Charleston six years ago I had the good fortune to see an epidemic of beriberi of the dry type. This epidemic occurred on a ship coming from Chili. When the vessel reached Charleston 19 men were infected and 1 died. Most of them had a slight toe-drop and some paresthesia and numbness; but 4 of these were very ill. The one who died developed sometime before he died a marked diarrhea, which nothing could check. The next spring, in the same neighborhood in which Dr. Jervey found his cases, I found a case of multiple neuritis of the dropsical type. I could not make diagnosis of beriberi, as I had only one case, although I thought it was that. The patient told me, however, that there were several similar cases in that neighborhood. Since then I have heard of an epidemic of dropsy. I think the disease has been with us for a long time, and those affected in this neighborhood seem to have the wet type, which would lead us to suspect there are two varieties, not only clinically but etiologically. I think it is probable that when we find the cause we will find that this is an infectious disease. I have heard that there have been epidemics of dropsy throughout the low country for several years, and it is most probably the same disease. I think, as does Dr. Jervey, that the line for us to follow would be to search for some agent of transmission which lives in the ditch water, because every case which we have seen has developed among the negroes who have worked in the mines or ditches.

What Has Been Done for the Prevention of the Increase of Blindness, and What Can Be Done

DR. CHARLES W. KOLLOCK, Charleston, cited the work which has been done in various states, mentioning especially New York, Massachusetts and Ohio. He gave an account of the good work that is being carried on by the New York Association for the Prevention of Blindness, and dwelt especially on the literature that is being widely distributed to the laity, the public lectures delivered and the amount ($5,000) that was appropriated by New York State for this work last year. He quoted the law of South Carolina for the care of new-born infants whose eyes should become inflamed after birth, and criticized it because it applied to cities and towns of 1,000 inhabitants and over and not to the whole state. He urged the amendment of this law at the next meeting of the association, so that it would apply to the entire state. He quoted the statistics of blind persons in various blind institutions who had been blind since birth, and among them that of the institutions at Cedar Springs, S. C., where out of 78 persons 23 have been blind since birth. He spoke of the large negro population in South Carolina, among whom eye diseases are rife and who are eminently careless in all health matters. He urged strict laws and education for these people. He quoted the number of births in Charleston from July 1 to Dec. 31, 1909, that of 213 whites 155 were attended by physicians and 58 by midwives. Out of 225 colored births 30 were attended by physicians and 195 by midwives. He mentioned that those midwives were not only ignorant, conceited, dirty, but very superstitious, and that more stringent laws should govern them. He said that all contagious and infectious diseases should be reported to the health office, according to existing laws, but doubted if we were ready to report a case of gonorrhea or syphilis or gonorrheal ophthalmia, but that there could be no doubt that publicity would lessen the number of cases. He declared that it was a shame that innocent women should be exposed to the danger of those diseases and that every man who desired to marry should be made to present a clean bill of health before obtaining a marriage license.

Uncinariasis in the Negro

DR. W. J. BURDELL, Lugoff, gave some interesting statistics in regard to hookworm in the negro. His tests were as follows:

Total number of stools examined, 226, from as many individuals. Hookworm ova in from 145 to 65 per cent.; persons examined ranging from 2 to 60 years.

Stools from 178 persons under 20 years of age, 126 contained hookworm ova, 70 per cent.

Three men over 50 years of age showed hookworm ova. They came from the clay lands of South Carolina; 200 individuals presented no symptoms of any disease; 5 were tuberculous and all these had hookworm; 21 "rickety" children under 5 years of age were infected with hookworm.

Of the 226 there was a history of ground itch in 190 cases, 84 per cent.; all went barefoot in summer.

Of 92 girls under 20, 61 were infected; of 86 boys, 65 were infected; 8 men and 11 women over 20 were infected.

He was treating the 5 tuberculous patients as nearly according to the recognized modern method as possible, with this class of patients, and getting very poor results. After finding the ova and removing the worms, three have greatly improved. While not claiming that tuberculosis can be cured by thymol, he stated that one of the reasons tuberculosis is so prevalent, and its course so rapid in the negro, is the fact that he has uncinariasis in what may be called a latent form, and tuber-

culosis or any other infection may overcome the partial immunity the race has acquired for hookworm, and hence there is a double infection. In the sand-hill district of South Carolina about 65 per cent. of all the negroes have hookworm; uncinariasis is latent in a majority of the negro race, and in the presence of other infections the uncinariasis becomes active and lessens the natural resistence. Uncinariasis plays an important rôle in the causation of rickets in the very young negro child. Hookworm is one of the first causes of the high mortality from tuberculosis in the negro race.

Report of a Case of Appendicostomy by a Method Devised by Dr. Pettyjohn of the Marine-Hospital Service

DR. L. A. GRIFFITH, Columbia: This operation was first reported by Dr. Pettyjohn in THE JOURNAL A. M. A., March 14, 1910. The abdomen is opened over the right border of the right rectus muscle, the appendix located, a stab wound made over the appendix and the appendix drawn through this stab wound. The abdominal cavity is quickly and effectively walled off. The appendiceal stump is short and straight. Irrigation can be begun at once. This method has all the advantages of appendicostomy as heretofore done, without the bad features. With this method it does not matter if the stump sloughs, and if a cecostomy is indicated this incision of Dr. Pettyjohn's is the most desirable. The danger of hernia and infection is greatly reduced. In the case reported the patient was probably syphilitic. Improvement was rapid, though he had not responded to medical treatment, and had been ill with dysentery more than one year.

DISCUSSION

DR. J. SHELTON HORSLEY, Richmond, Va.: Cecostomy has an advantage that appendicostomy does not present. The chief advantage, it seems to me, is the location of the cecum, which is in many cases in proximity to the anterior abdominal wall. The appendix has no definite location, but it is more frequently than otherwise found behind the cecum, and in order to bring it up, as Dr. Reed has pointed out, it is necessary to turn over the cecum, which makes a kink or valve and interferes with drainage. It seems to me that we are too likely to look on the appendix as something that has to be made some use of, besides securing the surgeon a fee, and it would probably be a little more preferable to take off the appendix in those cases and treat the stump, simply; tie a string around it without a purse-string suture, which cuts off the blood supply and complicates matters unnecessarily. Let the cecum fall back and bring up the anterior wall of the cecum, make a hole in it, put a purse-string suture around the hole, insert a rubber tube, tie the purse-string, and we have drainage which is very much better and more direct.

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Annual Session, held at Mobile, April 19, 1910

The President, DR. W. M. WILKERSON, Montgomery, in the Chair

A list of the officers elected was given in THE JOURNAL, May 7, 1910, p. 1549.

Uterine Fibroids Complicating Pregnancy

DR. R. S. HILL, Montgomery: Although these tumors are found in 20 per cent. of women beyond 30 years of age by postmortem examination, Pinard found them in only 84 cases out of 14,000 pregnancies. The reason for the latter is that the ordinary obstetric examination does not reveal the presence of the tumors unless of considerable size, and that many women with them never conceive. The diseased condition of the tubes, which is present in 50 per cent. of these women, is responsible for the increased sterility and the frequency of ectopic pregnancy in these women. Abortions, which are frequent, are due more to abnormal changes in the uterine endometrium than to pressure of the tumor. The tumor is liable to undergo degenerative changes, simple or sarcomatous. I do not think that the tumor ever disappears, although it may flatten out, if intramural, as pregnancy advances and give the impression of having done so. In treatment, I would oppose abortion on the grounds that it is not curative, and on account of the liability of infection and hemorrhage, making it about as dangerous as the more radical operations. Myomectomy should be done whenever possible. Not only subserous but intramural tumors may be removed by myomectomy. Should hemorrhage become uncontrollable, or should there be a number of tumors present, hysterectomy should be done. However, no operation should be undertaken if the tumor is out of the pelvis or can be lifted out, provided the woman can be kept where surgical measures can be instituted on short notice should conditions arise calling for them.

DISCUSSION

DR. M. E. CONWAY, Talladega: Some time ago I had a case of fibroid tumor of the uterus which was complicated by placenta prævia. I reached the woman in about twenty-two minutes after I was called and found an alarming hemorrhage. As she was likely to die from hemorrhage, I split the wall of the uterus up to the uterine artery and delivered a seven-months' child. The child is living to-day. The tumor I removed was pedunculated, but the operation was done subsequently and not at the time the child was delivered.

DR. I. L. WATKINS, Montgomery: It is essential to make an accurate diagnosis and determine the location and character of the tumor which complicates pregnancy. A careful examination should always be made of patients who have fibroid tumor or tumors complicating pregnancy. Such a patient should be kept under constant observation and attended, to promptly if necessary. Women with good-sized fibroid tumors in the uterus are delivered of babies but sooner or later it may become necessary to operate on some of them for the removal of the tumors in order that pregnancy may go on to term. When a fibroid tumor so interferes with pregnancy as to cause alarming symptoms it should be removed, as temporizing treatment only increases the possibility of infection.

DR. A. L. STAVELY, Washington, D. C.: With regard to myomectomy, I believe in being rather conservative in the treatment of these cases in which the tumor involves the fundus or upper part of the uterus, or even when there is a pelvic growth. I think it is well to wait until pregnancy is well-advanced because these tumors will sometimes rise in the pelvis and labor will terminate without any complications. I operated on one woman in the seventh month of pregnancy for the removal of a large sessile tumor at the base of the uterus or cervical junction. To get at it, I had to raise the uterus from its bed, and then enucleated the tumor.

Opsonin and Immune Sera

DR. H. T. LAY, Montgomery: A moderate dose of vaccine, such as would generally be the most useful dose in connection with a chronic infection produces, after a comparatively short negative phase, a positive phase, which may occur on an average and extend over the interval between two successive inoculations undertaken about ten days apart. A smaller dose would produce an immediate positive phase, but a positive phase would not be maintained for more than a very few days. An excessive dose would produce a negative phase which would last through a large part, if not through the whole of the interval, which usually elapses between the two inoculations.

Nausea of Pregnancy

DR. GEORGE H. FONDE, Mobile: To present the treatment and its principles, I shall recount the salient features of the Lenhartz treatment for peptic ulcer, which, in the treatment of nausea of pregnancy will call for such modifications as the individual condition of the patient and the principles mentioned may logically determine: First, the patient should rest in bed, with an ice-bag over the stomach, the object being to bring about general rest, and especially of the dynamic and secretory action of the stomach. Second, sweet milk containing a tablespoonful of lime water to the goblet of milk—two tablespoonfuls at each feeding—should be given every hour; the patient should be given the food from a teaspoon and not allowed to feed herself. The milk should be packed neatly in ice, and administered ice cold. Each day the quantity of milk given may be increased by two tablespoonfuls at each feeding—there should be two-hour intervals, in feeding at night. By

this increase it is but a short time before the patient is getting three or more quarts of milk daily. In the Lenhartz diet on the third day raw eggs are stirred in the milk, and thereafter on every third day an additional article of diet is added until the patient is given much more food than is needed for the average workman, with the result that the general strength and weight, together with greater resistance of the patient to all morbid conditions obtains, especially in vomiting of the nervous and functional type, such as we so frequently have in the nausea of pregnancy. The objects of these measures in the Lenhartz treatment are obviously explained on a physiologic basis. The excessively and constantly secreted acid gastric juice is neutralized by the milk, forming a bland peptone which soothes the stomach mucosa. The intolerance of the stomach to any solid or any volume is gradually overcome by the minute feedings so gradually increased. The patient being fed by the nurse rather than allowed to feed herself, together with the frequency of feedings, satiates the craving and lowers the psychic stimulus to gastric secretion, which is a great factor in pregnancy as in ordinary hyperchlorhydria. The liver, kidneys and heart and, in fact, the entire system are spared the irritation of toxic matters formed in the stomach and duodenum; while the system is being best nourished, the emunctories are being flushed and nurtured. When combating the hyperchlorhydria by the frequent sips of milk in small quantities, it will generally not be necessary to deny the patient regular meals, but as the periodic flow of gastric fluid attendant on regular meals is often in excess of the albuminous coefficient contained in such meals it is my experience that the patient will need to take the iced milk in teaspoonful sips within a very few minutes after the regular meals. In the treatment of such disorders of pregnancy, I would not overlook the value later of general hygienic and dietetic measures, with fresh air, exercise, and agreeable occupation whenever the condition of the patient will permit.

DISCUSSION

DR. GEORGE E. PETTEY, Memphis: A certain number of women die from excessive vomiting at pregnancy. I give strychnin to keep up active peristalsis, then ipecac and a little belladonna, and some of the secretion-producing agents to overcome the acid condition of the stomach, which does not appear again to amount to anything so long as active peristalsis is kept up.

DR. J. S. MCLESTER, Birmingham: The livers of patients who die from the toxemia of pregnancy show changes similar to those observed in acute yellow atrophy of the liver. I believe that the absorption of toxins from the intestinal tract is the primary cause of the condition.

DR. H. S. WARD, Birmingham: Vomiting of pregnancy, acute yellow atrophy of the liver, and acidosis are so blended one into the other that it is difficult to think of one without thinking of the other. Within three days after vomiting sets in in the pregnant woman one is able to detect acetone in the urine, and if starvation continues many days more, one is almost sure to begin to have autolysis of the liver cells, with all the bad symptoms coming on with an absolute condition of acidosis. This condition is found not only in pregnancy, but in typhoid.

Diagnosis of Painful and Swollen Joints in Children

DR. J. ROSS SNYDER, Birmingham: A diagnosis based on joint symptoms alone is entirely untrustworthy. There are few pathologic conditions that can be correctly diagnosed by an examination that includes only the site on which symptoms are most marked. Disease of the joints arising shortly after birth, that is, in the first weeks, and not later than the middle of the second month, is due to septic infection through the umbilicus or to a gonorrheal infection. A form of bone syphilis appearing shortly after birth, usually before the sixth week, is that of an osteochondritis or epiphysitis. The humerus, the radius, and the ulna are the bones most frequently affected, but the disease may appear at other places. In tuberculous knee joint disease there is warmth, obliteration of the depressions on either side of the ligamentum patellæ and atrophy of the thigh and leg, enough almost to confirm the suspicion aroused by the bent knee limp displayed by the child. The frequent mistake is to credit this lameness to injury and to allow the condition to remain without being kept under close observation or treatment. In the diagnosis of tubercular joint lesions, the *x*-ray is regarded of great assistance by some good men. Others equally prominent in the profession minimize its advantages. The tuberculin test is another diagnostic aid which is of disputed usefulness in this particular class of cases.

Chronic Gastromesenteric Ileus

DR. A. L. STAVELY, Washington, D. C., gave a brief summary of gastromesenteric ileus in general, its history, its anatomy, its etiology, and its treatment, and said in part:

In carefully reviewing the literature I have been able to collect 7 cases of the chronic type, including 2 of my own, all of which have been identified as cases of chronic gastroduodenal dilatation. A number of other cases were found in which gastric dilatation was recognized, and in which the symptoms corresponded very closely, but they were not sufficiently conclusive to justify classification. My first case followed an operation about 9 years before, and severe symptoms continued up to the time the woman came under my care in 1907. I anastomosed the duodenum with the jejunum anterior to the mesenteric ligament with complete relief from the symptoms. This is the first time such an operation has been performed for this trouble. The second case was a mixed one due to the presence of a gall-stone, which masked the symptoms. The gall-stone was removed and for a time, until the patient left the hospital, she was free from any discomfort. Then the symptoms recurred intermittently for two weeks at a time up to the present. To try the effect of posture and also to strengthen the diagnosis, I had her take the knee-chest position when the stomach swelled and she reported that after about 10 minutes the symptoms had disappeared. In my table I include 4 cases that are not verified, making 11 in all; 7 patients died of the condition; 4 had been operated on. There were 3 cures, one of them my own.

Treatment of Pneumonia

DR. HENRY GREEN, Dothan, summed up the treatment of this disease in the following words: A well-ventilated room, isolated as nearly as possible. Rigid prophylactic measures, such as disinfection of sputum and other excretions. The selection of the most intelligent nurse available and the limitation of company. Nourishment of the most palatable and easily digested sort, and medical treatment to be largely for the relief of conditions and symptoms that may arise.

DISCUSSION

DR. J. F. JENKINS, Piper: I have noticed that many patients with pneumonia will recover if we leave them alone. Of course, we should pay attention to good ventilation, hygiene, nourishment, etc. Medicine should not be given to these patients in a routine manner, but only when symptoms arise. When the heart is weak, strophanthus or strychnin is indicated, and when the skin is bluish nitroglycerin may be used.

DR. L. W. ROE, Mobile: There is one standard for the treatment of pneumonia, and that is fresh air. Several years ago, when I was practicing medicine in a milling camp, I had the misfortune to have a great many cases of pneumonia among negroes. These negroes were placed in log cabins or rudely constructed houses, and in the winter there was no means of procuring anything like a warm room, regardless of what I did these patients recovered.

DR. HUGH BOYD, Scottsboro: The prophylaxis of pneumonia is a little different in the city from what it is in the country. People in the city have a better system of health laws and carry them out better than do the country people. Country people need to be educated in regard to the dangers of pneumonia, and when there is a case of pneumonia in the house the rooms ought to be fumigated afterward just as much as after typhoid or tuberculosis. When there is a weakened condition of the heart it is well to use digitalis.

DR. J. S. MCLESTER, Birmingham: Fresh air is the main thing in the treatment of pneumonia. The toxin of pneumonia seems to have a special affinity for certain nerve centers. It affects the Gasserian ganglion. In certain cases it causes paralysis of the splanchnic nerve and complete loss of vasomotor tone in the abdominal cavity.

DR. FRANK S. MEARA, New York: In New York we put patients with pneumonia out of doors. When treating them in the hospital we open all windows wide and properly cover the patients, and they do remarkably well with fresh air treatment.

DR. HENRY BORST, Silver Hill: A good deal of harm is done patients with pneumonia from indiscriminate visiting and in robbing these patients of the fresh air which they should have.

DR. R. M. CUNNINGHAM, Birmingham: Pneumonia is an infectious disease. Over-work, mental anxiety, exposure to cold, and other things which reduce the resistance of the body invite the pneumococcus. In the treatment one should start in with the idea that pneumonia is a self-limited, infectious, toxemic condition, with the resisting power of the body diminished. The factors which contribute to heart failure in pneumonia are toxemia, increased work that the right side of the heart has to do because of the consolidated condition of the lung, and heart clots. One of the most important things to prevent cardiac thrombi and to overcome exhaustion and collapse is the infusion of salt solution.

Value of Employment as Treatment in Certain Neuroses and Psychoses

DR. WILLIAM D. PARTLOW, Tuscaloosa: Employment is of considerable value in the treatment of those mental and nervous states in which worry, anxiety and kindred sensations are present, because it provides mental diversion and promotes physical health.

DISCUSSION

DR. H. S. WARD, Birmingham: If we can find something that will interest these people, something that will get them out of themselves, they will forget their aches and pains. Those nervous people who are broken down from over-work are suitable for the rest cure.

Pellagra

DR. E. M. MASON, Montgomery, gave a brief summary of the present knowledge of pellagra. He briefly outlined the morbid anatomy, and in discussing the symptoms called attention to the extreme variability in onset and sequence, as well as severity. A low temperature, he said, was not unusual, associated, as a rule, with a disproportionately high pulse rate. He reported the results of blood examinations in a number of cases. These blood cultures had been uniformly sterile. The blood picture had shown nothing more than a secondary anemia, as a rule. He warned against accepting a large mononuclear increase as caused by pellegra without first excluding malaria, and uttered a similar warning with reference to helminthiasis in cases that show eosinophilia. He pointed out the case of diagnosis in typical cases, but warned against hasty diagnosis in unusual forms, and mentioned the diseases that may have to be excluded. He though that a lower death-rate than the asylum reports of 60 per cent. might be expected in early, uncomplicated cases, in private practice. There was no specific medication for the disease he said, but much might be expected from good food, rest, proper hygiene and change to cold, dry climate. Arsenic was to be preferred to other drugs. Only mildly antiseptic lotions should be used for the skin lesion. Cold baths, packs and douches should be used for the nervous manifestations. Serum therapy had been disappointing and little was to be expected from it. Finally, he called attention to pellagraphobia as a condition that he had frequently seen in both men and women, and advised a spirit of cheerfulness and optimism on the part of the physician in order to counteract the hopelessness and despondency that the popular dread of the disease had engendered in the minds of the people at large. His personal experience embraced the study of about 75 cases.

DISCUSSION

DR. H. P. COLE, Mobile: Speaking of pellagraphobia, I have in mind a patient who came to one of the infirmaries here with a burn on the back of his neck, which was simply a dermatitis, but he came 150 miles to be treated for pellagra. Another patient in Tipton, Georgia, was treated for 2 months for pellegra, came to Mobile markedly anemic, insisted on transfusion for what he thought was pellagra, went home and died in three weeks from tuberculous peritonitis, and the case was listed as a death from pellagra.

Intubation in Laryngeal Diphtheria by the General Practitioner

DR. ANDREW M. STOVALL, Jasper, reported eleven cases in which he resorted to intubation, with one death, and said a lesson should be learned from the case he lost by waiting for pronounced cyanosis to assert itself. He said: Do not temporize too long, but intubate as soon as signs of labored breathing are manifest. I would not advise the general practitioner, who is so situated as to command the aid of a specialist, to attempt this operation as a routine. But the physician of the rural districts, far removed from the specialist, should so equip and train himself as to be prepared to do this work when the urgent case presents itself.

SYMPOSIUM ON UNCINARIASIS

DR. HERBERT P. COLE and DR. GILMAN J. WINTHROP, Mobile, presented a joint paper in which they reached the following conclusions:

1. Uncinariasis must be considered not merely a disease of the lower classes, but affects to a large extent all individuals living in the state.
2. The number of infected individuals showing practically no gross symptoms warrants the routine examination of the stools of all persons from infected districts.
3. Further study of the prevalence of hookworm disease among the better classes of people will aid in the final estimate of the extent of the disease in the south.

DR. GEORGE DOCK, New Orleans, spoke on the prevention and treatment of hookworm disease.

DR. CHARLES W. STILES, Washington, D. C., gave an address on uncinariasis illustrated by numerous stereopticon views.

DR. HENRY G. PERRY, Greensboro, pointed out the importance of instituting an educational campaign against hookworm disease.

DR. S. M. C. HOWELL, Midland City, discussed the etiology, pathology, symptomatology, and diagnosis of hookworm disease.

Cesarean Section

DR. WILLIAM D. JAINES, Lafayette, reported the case of a woman, aged 22, on whom he did a Cesarean section and delivered a living child at full term. Both mother and child were in perfect health. In connection with the operation he resected a portion of each tube to prevent future conception, but the patient told him a short time ago that she had been menstruating regularly for some time.

Indications for Removal of Faucial Tonsils and the Technic

DR. FRANK M. THIGPEN, Montgomery, said that in his experience no evil effects have followed the removal of diseased tonsils, and that when the operation is done in a clean, careful and correct manner, the operator will be rewarded not only by the relief given the patient, but by the satisfactory results of his work.

Acute Endocarditis

DR. WILLIAM W. HARPER, Selma: The treatment of ulcerative endocarditis is preventive. Since it is caused by gonorrhea and septic organisms, we should seek to cure these diseases as promptly as possible. The hope of the future lies in serotherapy. In all streptococcus infections, we should give antistreptococcus serum a thorough trial. Doctors should impress on the laity that gonorrhea is a serious disease and needs prompt and thorough treatment. In the acute stage small and increasing doses of the bacterins are giving good results in the hands of some.

Diagnosis of Obscure Cases of Appendicitis

DR. MACK ROGERS, Birmingham, drew the following deductions:

1. There is a normal involution of the appendix.
2. This is accompanied by a fibroid degeneration of the normal structures of the organ.
3. In this process the nerve fibers are the last to be eliminated and are, therefore, entrapped in the meshes of the contracting fibroid tissue and irritated.
4. This irritation manifests itself both by pain and reflex action upon other organs.
5. This pain calls out and maintains a permanent hyperleucocytosis that protects the appendix from infection.
6. This reflex action may manifest itself on almost any of the vital organs of the economy.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

A CONFERENCE OF OPHTHALMOLOGISTS WITH ORGANIZATION OFFICIALS ON FAMILY PHYSICIAN REFRACTING

By Leartus Connor, M.D.
DETROIT

The promotion of family physician refracting calls for the cooperation of all physicians. It is believed that if these understood its value, all would seek its possession. To promote this understanding the Detroit Ophthalmological Club invited to its meeting May 3, the leading officials of Michigan medical societies and educational institutions. The following guests were present, took part in the discussions and endorsed the resolutions adopted, viz.: Dr. J. H. Carstens, president Michigan State Medical Society; Dr. Winfred Haughey, secretary-editor Michigan State Medical Society; Dr. Frank B. Tibbals, chairman medicolegal committee, Michigan State Medical Society; Dr. Charles T. McClintock, member of committeee on organization, Michigan State Medical Society; Dr. Guy L. Kiefer, health officer of Detroit; Dr. W. C. Martindale, superintendent Detroit public schools; Dr. Gerald Edmonds, Honor, Mich., and Dr. W. C. Garvin, Millington, Mich., family physicians doing simple refracting. The chairman of the council of the Michigan State Medical Society, Dr. W. T. Dodge, sent a letter supporting the movement. Though unable to be present, like support was given by the following: Dr. Victor C. Vaughan, dean medical department Michigan University; Dr. H. O. Walker, secretary Detroit Medical College; Dr. Arthur D. Holmes, president of the Wayne County (Detroit) Medical Society.

The chairman of the meeting, Dr. Leartus Connor, opened the discussion by a paper on "The Economic Value of Family Physician Refracting." He called attention to the fact that in the United States there are about 180,000,000 human eyes; 135,000 doctors; 3,000 ophthalmologists. This averages 60,000 eyes for each ophthalmologist. As every eye over forty years of age needs refracting, most of them several times, and as very many eyes under forty need refracting, we have an explanation of the fact that the ophthalmologists never have been able to meet the refractive needs of all the people in the United States. Because the family physicians never have been trained to supply these needs, salesmen of spectacles entered the field, and gave such satisfaction as to secure large and increasing support. Farther, without realizing the nature of their action, a large number of educated physicians support and patronize the opticians. In the hope of encouraging family physician refracting, the paper pointed out the vast values inherent in its universal adoption; values to ophthalmology and ophthalmologists, to general medicine and the family doctor; to the profession as a whole, in strengthening its organization, in solving the optician problem and in providing such cooperation of ophthalmologist with family doctor that the 180,000,000 of human eyes in the United States may be cared for by educated physicians, obviating the existing necessity for laymen ophthalmologists.

It was urged that if these values were accepted by this conference the members could use their positions to stimulate others to comprehend the facts and master family physician refracting till its enormous values be harvested for both profession and people.

Simple refracting was shown to be an art quite within the reach of every medical student, without neglecting any other of his studies, and of practice by any doctor, not already overburdened with work.

It was pointed out that while ophthalmology has many officers (specialists) it has few soldiers (family physicians) in its army, and so is impotent against the invasion of opticians with their horde of laymen. But an equipment of the entire profession with simple refracting would transfer all physicians to the ophthalmologic army who, in turn, would capture the people, before opticians could reach them.

Every member of the club and its guests took part in the discussion. Some detailed the steps by which they had cast aside the dominant practice and adopted the one presented. Many virile reasons were adduced for the change, and suggestions made for promoting the new doctrine.

Though lasting several hours, the conference never lagged but grew in interest from start to finish. Each saw in a new light a solution of present difficulties, vast benefits to the nation and increased honor to the profession.

Without neglecting aught of present good work, members of the Detroit Ophthalmological Club and its guests of May 3, 1910, adopted as their watchword "Family Physician Refracting" until every physician in the United States is equipped therefor.

Finally the following resolutions, on motion of Dr. Don M. Campbell, professor of ophthalmology, Detroit Medical College, were unanimously adopted by the club:

WHEREAS, Family physician refracting promotes the cooperation of family physician and ophthalmologist; provides physicians adequate for the people's refractive needs; enriches ophthalmology and ophthalmologists, general medicine and family doctor, strengthens medical organization and solves the optician problem.

Resolved, That the Detroit Ophthalmological Club endorses the action of the Section on Ophthalmology of the American Medical Association in promoting "family physician refracting," the action of the Michigan State Medical Society in seeking to qualify its members to meet the people's refractive needs; the action of the Kentucky State Medical Society endorsing the Michigan idea of family physician refracting; the action of the medical colleges in substituting "family physician ophthalmology" for "specialist ophthalmology," and the action of the state registration boards in Michigan, Vermont, Nebraska and Utah in requiring a "working knowledge of simple refracting."

Resolved, That the Detroit Ophthalmic Club urge other state boards of registration to require (1) for license, "family physician refracting," and (2) for the right to practice ophthalmology "A Comprehensive Laboratory and Clinical Study" after securing a license.

Resolved, That the Detroit Ophthalmic Club encourage family physicians to qualify for intelligent cooperation with ophthalmologists by equipping themselves for simple refracting.

It is suggested that much profit would result from other ophthalmic societies arranging similar conferences with officials of general or county medical societies, or even with groups of family doctors. Indeed, individual ophthalmologists might confer with little bands of family doctors and encourage them to master simple refraction, with the assurance of helpful results.

Finally, family physicians doing simple refracting might so confer with neighbors and local societies, that all become more competent for the refractive needs of their families.

91 Lafayette Boulevard.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month—Third Weekly Meeting

EPILEPSY

ETIOLOGY: Heredity, organic and functional disorders in antecedents. Age, sex, preceding diseases, associated neuroses. Toxic agents, infections, syphilis, traumatism, reflex causes, mental strain.

PATHOLOGY: Varying changes found in different regions of brain, in neuralgia, in blood-vessels, in meninges.

SYMPTOM: Prodromes, character, time of onset. Auræ, motor, sensory, psychic, visceral, cerebral, etc. A. Complete convulsion, (a) tonic period, (b) clonic period, (c) period of stertor. Modification of each period. Status epilepticus. B. Incomplete attacks. Petit mal, vertiginous attacks, disturbance of consciousness, epilepsia procursiva, etc. C. Psychic equivalents of epileptic attack, automatism, etc. Post-paroxysmal conditions, tremors, paresis, loss of strength, diminished knee-jerks, petechiæ, headache, changes in urine, mental deterioration, etc.

DIAGNOSIS: Differentiate from hysteria, vertigos, toxic convulsions, organic brain lesions, transitory mania.

TREATMENT: Hygienic, dietetic. Physiological action of bromids, details of use in epilepsy. Use of other drugs. Patent medicines for "fits."

Medicolegal

Unlawful Practice of Medicine by a "D. S. T."

The Supreme Court of Indiana says, in Witty vs. State, 90 N. E. R. 627, that the party appealing, the defendant in the court below, who claimed to be a graduate of an institute of suggestive therapeutics, and in one of his advertisements appended the letters "D. S. T." to his name, was charged with practicing medicine without a license, in violation of the statute. The evidence established that he held himself out and advertised to the public by a sign in his office, and by publication in a local newspaper, that he was a "doctor," and capable and competent to successfully treat all forms of chronic diseases. He notified all persons, through the public press, that he was not only a "doctor," but that as such he was a specialist in the treatment of chronic diseases. He further advised them that he was capable of curing the many diseases mentioned in his advertisement without medicine or surgery, and that there were but few of the many diseases which did not yield to his drugless treatment.

The mere fact alone that in his practice he did not use drugs in any form whatever as a medicine to cure or heal the many diseases which he professed to successfully treat did not place him, in the eyes of the statute, within its meaning in the position of one not engaged in the practice of medicine. The term "doctor," as defined by the lexicographers, signifies or means, in one respect, a person who practices medicine. Consequently, when the defendant held himself out to the public, and advised them that he was a "doctor" located in the city; that he had certain office hours—he gave all persons to understand and be informed that he was at least engaged in the practice of healing or curing suffering humanity of diseases by some method or means adapted to that purpose, notwithstanding the fact he disclaimed the use of medicine of the character of drugs in his treatment of the diseases mentioned. He did not profess in his advertisement to be but a mere masseur engaged in giving massage treatment to all persons who might desire such, or who had been advised by their physician to take such treatment. He undertook to show by his advertisement that he was learned in his profession, and competent to diagnose diseases and prescribe the treatment necessary for a cure.

His counsel insisted that while it was true that he was shown to have had an office, that he advertised and held himself out as a doctor, "and was ready to and did administer to the wants of the sick, he did so exclusively by mental suggestion and by manual rubbing, and did not pretend to practice medicine in any shape or form." But the mere fact that he did not administer to his patients drugs in any form or manner, but confined his treatment to rubbing their afflicted parts, could not be held to exempt him from the provisions of the statute. If he, under the facts in this case, could be held as not coming within the provisions of the statute, then any person unlicensed to practice medicine might hold himself out to the public as a doctor, and treat all classes of diseases without administration of drugs, and not offend against the statute. Such a construction of the law would be inconsistent with its letter and spirit. The very object or purpose of the statute is to protect the sick and suffering and the public at large against the ignorant and unlearned by prohibiting them from holding themselves out to the world as doctors or physicians without having acquired any knowledge whatever of the human system, or the diseases and ailments with which it may be afflicted.

The defendant under the facts was properly convicted, and the judgment of conviction is therefore affirmed.

Operations from the Viewpoint of a Personal Injury Case

The Supreme Court of Iowa says, in White vs. Chicago & Northwestern Railway Co., 124 N. W. R. 309, that, of course, no one can be said to owe the duty of submitting to an operation, especially where the administration of an anesthetic is necessary in order that it be performed. No right is held more sacred, or is more carefully guarded by the common law, than is the right of every individual to the possession and control of his own person, free from all restraint or interference from others, unless by clear and unquestionable authority of law. As is well said by Judge Cooley: "The right to one's person may be said to be a right of complete immunity; to be let alone."

Whether an injured person shall submit to a further mutilation of his person is essentially a matter of personal choice. This is necessarily so, for experience has demonstrated that every operation is performed with some risk. But when pain may be obviated, and the condition of the injured member improved, by an operation without injury and at small expense and slight inconvenience, the person injured ought not to be recompensed on the theory that he will not avail himself of the benefits of modern surgery. Nor, on the other hand, is compensation to be limited to the reasonable cost of surgery as though the injured person were a chattel being put in state of repair. The feasibility of an operation calculated to obviate pain and improve conditions is to be considered by the jury, not owing to any duty of the injured party to submit his person to the surgeon's knife, but as bearing on the nature and extent of the injury and the probable consequences when accorded such treatment as ordinary prudence shall dictate.

It was requested that the jury be instructed in this case that if they found from the evidence that the injured man's fingers, at the place of amputation, still caused him pain, and that such pain could be obviated by a new amputation, at small expense, and without serious danger to him, then it would be his duty to have such new amputation, and he would in no event be entitled to recover for any pain or suffering that such new amputation would prevent. The instruction was refused, and it was not without fault, but the attention of the jury might well have been directed to the feasibility and probable effect of the operation as bearing on the amount of damages to be allowed.

Current Medical Literature

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

May 11

1 *Newer Conceptions of Myocardial Disease. T. E. Satterthwaite, New York.
2 The Crux of the Tuberculosis Problem. L. E. Flick, Philadelphia.
3 Phthisiophobia. J. H. Lowman, Cleveland, O.
4 Amebic Dysentery in New York. H. S. Patterson, New York.
5 Fatal Uncinariasis Infection. B. Lee and H. Brooks, New York.
6 What the Fight Against Tuberculosis has Accomplished. S. J. Maher, New Haven, Conn.

1. **Newer Conceptions of Myocardial Disease.**—To the classification of myocardial disease presented several years ago, Satterthwaite adds another form—atrophy of the heart, which is, however, very rare. His classification is as follows: (1) Acute parenchymatous myocarditis; (2) acute diffuse myocarditis, including the tuberculous, syphilitic and suppurative forms; (3) chronic myocarditis; (4) the fat heart; (5) the fatty heart; (6) hypertrophies, and (7) atrophies. Neither dilatation nor spasm is included in the table. Satterthwaite says that they are incidents which occur at times in any of the varieties mentioned, and cannot, therefore, be considered separately. He discusses the pathology and diagnosis of the various forms and their treatment.

Boston Medical and Surgical Journal

May 12

7 *Circulatory Failure in the Acute Infections of Children: Causes and Treatment. J. Howland, New York.
8 The Interpretation of Certain Cerebral Symptoms with Reference to v. Monakow's Theory of Diaschisis. E. W. Taylor, Boston.
9 Late Results Obtained by the Submucous Resection of the Nasal Septum. O. A. Lothrop, Boston.
10 *The Diagnostic Value of the Search for the *Spirochæta Pallida* in the Umbilical Cord of the New-Born Infant. A. B. Emmons, Baltimore.
11 Proctoclysis. P. W. Harrison, Boston.

7. **Circulatory Failure in Acute Infections of Children.**—Critical clinical observation and animal experimentation, says Howland, are in accord in referring the cause of circulatory disturbance in acute infections to a failure and final collapse of the vasomotor center. There is also almost complete agreement obtained by animal experiments and by modern methods of determining the human circulatory capacity as to the drugs and methods most useful in this circulatory disturbance. He says that from the knowledge at present available it seems that the continuous use of cold air, the use of caffein and camphor reinforced by digitalis, with infusions of salt solution and the careful administration, not too often repeated, of adrenalin, are our best methods to combat this dangerous condition.

10. **Spirochæta Pallida in Umbilical Cord of the New-Born Infant.**—Emmons studied the cords in 30 cases suggestive of syphilis. When the child was born alive, the portion of the cord immediately adjoining the ligature was studied, and in stillbirth cases the portion between the ligature and the abdomen. Whenever possible, autopsy was done, and in each case the routine microscopic examination of the placenta gave a clue as to the probable diagnosis. The tissue was imbedded in paraffin and the sections stained by the method of Levaditi. Whenever the livers from the corresponding children were obtainable, they were imbedded at the same time, so that sections could be compared with those of the cord. When positive results were obtained, the liver sections showed the abundant presence of a well-stained spirochete, and in such cases numerous sections of cord were studied and a negative report registered only after a most prolonged and careful search.

From this study, Emmons draws the following conclusions:

1. *Spirochæta pallida* is rarely found in the cords of the syphilitic new-born infants. When positive results are obtained, they are present in considerable abundance in the muscularis of the umbilical vein in sections taken from the neighborhood of the umbilicus.

2. A large proportion of syphilitic new-born infants, as shown by microscopic examination of the placenta, as well as by characteristic autopsy findings with spirochetes demonstrable in the liver, show that spirochetes could not be found in the cord even after extensive search. Accordingly a negative diagnosis cannot be made by this procedure alone.

3. Occasionally the search for spirochetes in the cord may be of positive value as a clinical test. But the much greater frequency of negative findings hardly justifies its adoption as a routine procedure.

New York Medical Journal

May 14

12 Provision for Drunkards and Inebriates in New York. F. Peterson, New York.
13 The Contractile Elements in the Connective Tissue. J. Wright, New York.
14 The Nursing Problem. T. Potter, Indianapolis.
15 The Diet in Pulmonary Tuberculosis. C. Rayevsky, Liberty, N. Y.
16 Problems in the Non-Institutional Treatment of Pulmonary Tuberculosis. T. Howard, Brooklyn.
17 Molluscum Contagiosum: Ten Family Epidemics and Forty-one Cases in Children. F. C. Knowles, Philadelphia.
18 The Caloric Method of Infant Feeding. S. A. Blauner, New York.
19 Acute Anterior Poliomyelitis. J. W. Cokenower, Des Moines, Iowa.
20 Serodiagnosis of Syphilis (continued). V. C. Pedersen, New York.

Lancet Clinic, Cincinnati

April 30

21 Intracranial Neoplasms: Diagnosis and Indications for Treatment. T. A. Williams, Washington, D. C.
22 Tuberculosis and its Prevalence in Cincinnati. B. F. Lyle, Cincinnati.
23 Operative Treatment of Tuberculous Joints. H. J. Whitacre, Cincinnati.
24 Medical College Management. J. K. Scudder, Cincinnati.

American Journal of Medical Sciences, Philadelphia

May

25 Vaccine Therapy in Colon-Bacillus Infection of the Urinary Tract. F. Billings, Chicago.
26 *Paroxysmal Arteriospasm with Hypertension in the Gastric Crises of Tabes. L. F. Barker, Baltimore.
27 *Five Hundred and Fifty Cases of Typhoid in Children. S. S. Adams, Washington, D. C.
28 Arterial Hypertension. A. R. Elliott, Chicago.
29 Use and Abuse of Gastroenterostomy. J. B. Deaver, Philadelphia.
30 Have we Made any Progress in the Treatment of Gonorrhea? L. B. Bangs, New York.
31 *Helminthiasis in Children. O. M. Schloss, New York.
32 An Epidemic of Noma. H. Neuhoff, New York.
33 The Antitryptic Activity of Human Blood Serum: Its Significance and its Diagnostic Value. R. Weil, New York.
34 *The Wasserman and Noguchi Complement-Fixation Tests in Leprosy. H. F. Fox, New York.
35 *The Effect of Tuberculosis on Intrathoracic Relations. A. P. Francine, Philadelphia.

26. **Gastric Crises of Tabes.**—A woman, aged 49, complained of severe pains in the back and stomach, and also of headache. Except for vague "rheumatic" pains for some 10 years she suffered from no disease until the present trouble began. About eight years ago she began to have attacks of pain in the back, indigestion and pains in the joints, especially in the shoulders and knees. The pain in the small of the back was tolerably severe, and was sometimes associated with nausea. She has suffered much from headache, frontal and occipital, and she thinks that her eyesight has failed during the last few years. The individual attacks begin with a feeling of a lump in the throat which cannot be swallowed (globus?). Vomiting soon comes on, so that nothing can be retained in the stomach, and she has extreme pain in the back and abdomen and complains of sensitiveness of the skin of the trunk. The pain is so severe that she usually weeps violently and tosses about in bed, grinding her teeth. She has never lost consciousness in an attack, nor has there been any disturbance of the sphincters. Her mind seems clear during the attacks. Since about a year ago there have been nearly two attacks a week, each lasting from a few hours to three days. She has noticed palpitation of the heart during some of the attacks. In the crises from which this woman suffered the pain was situated in the upper abdomen and radiated into the back. The pain was accompanied by paroxysmal arteriospasm, with great elevation of the maximal arterial pressure. That the hypertension depended on the arteriospasm was evident from the effect of amyl nitrite, which reduced the maximal pressure promptly to 90 mm. Hg., though as soon as the effects of the nitrite had worn off the hypertension reappeared.

27. **Typhoid in Children.**—There were 65 deaths, a mortality rate of 11.8 per cent. in this series reported by Adams. Taking the periods separately, we see the greatest reduction in the last decade and a half, which he thinks is unquestionably due to the methods of treatment employed. From 1892, the beginning of the third decade, to 1898, inclusive, the treatment followed was hydrotherapy, antiseptic and antiperiodic. During this time 88 patients were treated; 10 died, a mortality of 11.36 per cent. At the beginning of 1899 the purely hydrotherapeutic treatment was begun and has been strictly followed throughout the remainder of the decade, with the result that of the 164 patients then treated, 18 died, a death rate of 10.97 per cent. Four patients of the last series died of pulmonary tuberculosis either during or directly following a typical course of typhoid. Excluding them from the mortality list, the death rate will be 8.54 per cent.

Some slight changes in treatment have been instituted during the last half decade. The diet was augmented in nutritive value by the addition of cereals, eggs and bread to the prescribed routine of milk and broths. The patient's ability to digest such "soft food" was carefully watched and only two or three instances were recorded in which the semisolid food had to be discontinued. By adopting this method, Adams says that most of the heart-rending scenes of the sick-room will be avoided. The otherwise patient child no longer begs and cries for "something to eat;" there is no longer progressive emaciation until the little skeleton is covered by loose skin hanging in folds; relapses become less frequent; convalescence is shortened, and complete recovery replaces prolonged invalidism.

31. **Helminthiasis in Children.**—Twelve of 30 children who suffered from unexplained nervous or gastrointestinal symptoms were found by Schloss to harbor intestinal worms. Consecutive examinations of 280 children showed that 80 (28.57 per cent.) harbored intestinal worms; 5 of the children harbored 2 species of parasite, giving a total of 85 infections. Thirty-one (11.07 per cent.) of the children harbored *Trichuris trichiura*, 23 (8.21 per cent. harbored *Oxyuris vermicularis*, 20 (7.14 per cent.) harbored *Hymenolepis nana*, 6 (2.14 per cent.) were infected with *Ascaris lumbricoides*, and 5 (1.78 per cent.) with *Tænia saginata*. Only 1 of 33 children infected with *Trichuris trichiura* (from both groups of examinations) suffered from symptoms. Thirty-five of the 51 children infected with the other parasites (from the consecutive examinations) suffered from symptoms. The eosinophil blood cells were not increased in cases infected with *Trichuris trichiura*.

34. **Wassermann and Noguchi Fixation Tests.**—It is claimed by Fox that a positive Wassermann reaction is frequently

obtained in cases of leprosy giving no history or symptoms whatever of syphilis. The reaction is at times very strong, inhibition of hemolysis being complete. It occurs chiefly in the tuberculous and mixed forms of the disease, especially in advanced and active cases. In the cases of the maculoanesthetic and purely trophic type the reaction is generally negative.

35. **Effect of Tuberculosis on Intrathoracic Relations.**—Francine's report deals with the changes brought about in intrathoracic relations as shown by skiagrams of 60 patients with pulmonary tuberculosis, studied clinically before and after the taking of the skiagrams. Frequently in advanced pulmonary tuberculosis the aorta is displaced as well as the heart and in the same direction, usually to the right. In the present series, many of which were advanced or far advanced cases, the heart in the majority of instances was not displaced. Absence of displacement is much more common, in fact, almost the rule, in acute infiltrations and consolidations, before fibrosis and contraction have taken place. In many instances, even when the lesions were widespread and often destructive, the heart was not displaced. When the pulmonary lesions are of fairly symmetrical character on both sides, the heart is more commonly displaced to the right than to the left. In these cases there is usually evidence to show that the primary and older lesion is on the right. When the lesion is more extensive on the left the heart is not so regularly displaced nor to the same extent, as in corresponding right-sided lesions. Rarely the fibrosis of the lungs and pleura may be so great or of sufficient density to obliterate the boundaries of the heart. In many cases the skiagrams show an interesting feature which is not demonstrable clinically, namely, that during systole of the heart there is an area between the lower boundary of the heart and the diaphragm of about the extent of one centimeter, which distinctly transmits the x-rays. The limits or extent of the cardiac excursion may also be seen in many cases. In four cases, distinct pericardial adhesions could be seen.

The heart appeared normal in size, both in the skiagrams and to physical examination in all the cases, with four exceptions. In three of these the enlargement was practically confined to the right side, and the lungs were markedly emphysematous. In one case there was a general hypertrophy. There was no evidence of an organic valvular lesion in the series, though in some cases soft systolic murmurs were audible in the mitral and pulmonary areas. The skiagrams were taken under full inspiration. In 29 cases (48.33 per cent.) the diaphragm was unaffected by the pulmonary lesion. The diaphragm was affected in this series in 51.66 per cent. of the cases. In every case in which the heart was displaced the diaphragm was elevated on the side toward the displacement, and in the cases in which the heart assumed the anteroposterior position the diaphragm was elevated on both sides. The diaphragm was affected in 9 cases in which the position of the heart was normal.

In every case in this series the cervical glands were enlarged to palpation. In 51.66 per cent. of the cases enlarged glands could be seen in the plates. With the exception of about 6 cases all those in which enlarged glands were visible, were either early or moderately advanced, without the breaking down of tissue; while in the majority of the advanced cases the glands did not show. It would appear as if there were two explanations for the absence of glands in the majority of plates in which they were not visible, namely, that their presence was concealed by the area of involvement, or what appears more likely that with the advance of the disease the glands had softened or broken down and so failed to give rise to a shadow. There were usually only 3 or 4 glands noted in any one plate, and in a number of instances they appeared to be calcified.

The presence of calcareous infiltration in the costal cartilages was noted in only 8 cases. It was usually confined to the costal cartilage of the first rib, though in one instance it involved all the cartilages. In the majority of advanced cases the involvement was of sufficient density and extent to have concealed the presence of calcification in the cartilages of the first rib, but there was no evidence of calcification in the costal cartilages which could be properly studied.

Medical Herald, St. Joseph

April

36 The Physical Basis of Mental Disease. F. P. Norbury, Hospital, Ill.
37 Cataract. F. B. Tiffany, Kansas City, Mo.
38 Scarlatiniform Erythema. W. Frick, Kansas City.
39 Tumors of the Female Breast. F. H. Clark, El Reno, Okla.
40 Conservation of the Mucous Membrane in Intranasal Surgery. T. C. Todd, Oklahoma City, Okla.

Maryland Medical Journal, Baltimore

May

41 *An Unusual Surgical Case under Local Anesthesia. G. Steele, Cambridge, Md.
42 The Advancement of Medical Education. G. M. Linthicum, Baltimore.
43 Historical Sketch of Dr. Elisha Perkins, Inventor of the Metallic Tractor. J. T. Smith, Baltimore.
44 The Newer Methods of Treating Fractures. A. McGlannan.
45 Hahnemann. H. M. Cohen, Baltimore.

41. **Unusual Surgical Case Under Local Anesthesia.**—Steele records a case of irreducible, congenital, left inguinal hernia in a child 20 months old, with undescended testicle and appendix in the hernial sac, complicated with double bronchopneumonia. Operation for radical cure of hernia, and removal of appendix was done through left inguinal ring under local anesthesia, with recovery of the patient.

Archives of Pediatrics, New York

April

46 Pneumothorax: A Clinical and Radiographic Study. F. Hueber and I. S. Hirsch, New York.
47 Meningitis and Conditions Simulating Meningitis. F. S. Meara, New York.
48 Influenza Meningitis. L. C. Ager and O. T. Avery, Brooklyn.
49 Pulmonary Abscess Following Septic Deglutition Pneumonia. S. Seilikovitch, Philadelphia.
50 Cerebrospinal Syphilis. K. Schlivek, New York.

American Medicine, New York

April

51 *History and Occurrence of Pneumonia: Brief Statistical Data. H. E. Lewis, New York.
52 Differential Diagnosis of Lobar Pneumonia. H. Stern, New York.
53 Symptomatology, Complications and Prognosis of Pneumonia in Children. H. Helman, New York.
54 *Pneumonia in Children. LeG. Kerr, Brooklyn.
55 Pneumonia as a Sanitary Problem. C. E. Woodruff, U. S. Army.
56 Treatment of Pneumonia. B. Robinson, New York.
57 Treatment of Pneumonia. G. F. Butler, Chicago.
58 *Use of Vaccines in Treatment of Pneumonia. F. E. Stewart, Philadelphia.
59 Diet in Pneumonia. W. H. Porter, New York.
60 Pneumonia as a Postoperative Complication. R. T. Norris, New York.
61 Pneumonia in the Aged. R. W. Wilcox, New York.
62 Meningitis Complicating Pneumonia. A. Hymanson, New York.

51. **History and Occurrence of Pneumonia.**—All available statistics, says Lewis, point to the fact that pneumonia is increasing. Especially does this seem to be so in certain localities, as, for instance, in Chicago. During the last 40 years the mortality from pneumonia has increased from 4.4 to 19.95 per 10,000 inhabitants. The last U. S. Census shows that pneumonia, next to tuberculosis is responsible for a larger number of deaths each year than any other disease. Of 12,098 cases, 8,881, or 73.41 per cent., occurred in males, and 3,217, or 26.59 per cent., in females. Among 10,159 cases, the disease terminated by crises in 5,397, or 53.1 per cent.; in 1,042 cases, 21.7 per cent., the crises occurred on the seventh day; in 625 cases from the tenth to the seventeenth day.

Among 2,613 cases death occurred as follows: Before the fourth day, 161 cases; fourth to twelfth day, 1,483; twelfth to eighteenth day, 403 cases. The greatest number of deaths occurred on the seventh day, 230.

54. **Pneumonia in Children.**—The one drug recommended by Kerr in bronchopneumonia is belladonna, but to be effective, he says, it must be given in doses large enough to cause flushing of the face; it may be continued for the first few days. Small doses are of no value and its protracted use is not indicated. There must be secured for the child (1) the best hygienic surroundings possible; (2) a diet reduced but of such quality as properly to support the system; (3) free administration of water; (4) regularity of the bowel function; (5) abundance of fresh cool air day and night; (6) strict cleanliness of the body, and particularly the nose and mouth; (7) as perfect physical and mental quietude as possible. The cautious use of the internal emetics is sometimes attended with benefit, and while an initial vomiting may prove beneficial in clearing away the bronchial mucus, this method must not be persisted

in. Counterirritation with mustard paste is valuable, and it is not wise to wait until pulmonary collapse is suspected, for used early it gives relief from the dyspnea and cough. Everything that weakens should be avoided; everything that strengthens encouraged. Stimulation is not alone wise, but absolutely necessary after the first few days. Delay until the necessity is present means much lost ground, for everyone of these patients needs stimulation practically throughout. Kerr's preference is for a combination of small doses of camphor and whisky; the camphor being given in sweet almond oil (¼ grain to 5 drops) and the whisky well diluted with water. Tonics should be given just as early as possible, for delay in this matter, as in the case of stimulants, may mean lost ground.

58. **Vaccines in Pneumonia.**—Stewart holds that the pathologic conditions resulting from an acute pneumococcic infection can be relieved, removed or modified, by injecting subcutaneously killed bacteria of the species causing the diseased condition.

Annals of Ophthalmology, St. Louis

April

63 Classification of Eye Diseases. A. Duane, New York.
64 Gonorrheal Iritis Successfully Treated by Gonococcus Vaccines. E. A. Shumway, Philadelphia.
65 Successful Extraction of Senile Cataract from the Eyes of Lepers. T. J. Dimitry, New Orleans.
66 Vitiligo Iridis—Report of Two Cases. A. C. Sautter, Philadelphia.
67 Complete Albinism: Changes in the Diameters of the Lens as Seen Through the Iris. G. F. Libby, Denver.
68 Retinal Phlebitis Following Influenza. E. S. Thomson, New York.
69 Perfect Optical Work. W. M. Richards, New York.
70 Treatment of the Lacrimal Sac. W. McE. Brown, Neustadt, Ontario, Canada.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

April

71 Modern Views on Irregular Heart Beat. H. Sewall, Denver.
72 *Substernal Respiratory Squeal: A Hitherto Undescribed Adventitious Chest Sound Heard over the Region of the Heart. R. G. Curtin, Philadelphia.
73 The Pension Claimant and Visual Impairment. S. D. Risley, Philadelphia.
74 Diet and Climate. W. M. Gibson, Utica.
75 The Significance of Sense Deception as a Symptom of Insanity. W. W. Hawke, Philadelphia.

72. **Substernal Respiratory Squeal.**—The sound described by Curtin was discovered accidentally. It is the "*bruit du diable*," or venous hum of the veins of the neck in extreme anemia, which hum it seems to resemble more than any other sound. It resembles to some extent the hissing squeal or singing of a boiling tea-kettle. It is more like a shrill musical whistling than a humming sound. It is remittent when strong, is loudest on inspiration, and becomes faint or is lost on expiration.

The continuousness of this sound, says Curtin, shows that it is not produced at the aortic, pulmonary or tricuspid orifice; otherwise it would cease when the blood current is stopped by the shutting of the valves at these orifices. The only places in the heart at which there could be a continuous sound, such as the one described, would be in the blood flowing into the right or left auricle, and these two places in the heart are the only ones where the respiration has a perceptible modifying influence on the flow of blood; but, again, the shutting of the mitral and tricuspid valves has a modifying influence on the current, which would be perceptible in an abnormal sound connected with it.

The point of greatest intensity of the sound is a little to the left of the median line of the sternum at or just below the second cartilage. Curtin therefore locates the sound at or near the upper part of the left auricle where the pulmonary veins empty into it. The sound is louder, stronger and coarser (indicating a larger vessel and a more active flow of the blood) than the sound heard at the base of the neck, when the jugular is pressed with the stethoscope; but it is of the same general character. Its location under the sternum places it beyond the reach of any pressure. It is not influenced by the action of the heart; that is, one cannot find any change in the sound with the systole or diastole. During inspiration there is a marked change. Just at the commencement of inspiration the sound becomes gradually louder and more pronounced until the beginning of expiration, when it begins to diminish. In some cases it was not audible after the commencement of the act of expiration.

Annals of Otology, Rhinology and Laryngology, St. Louis

March

76 Nasal Tuberculosis Involving the Right Ethmoid Bone, with Recovery After Operation. O. T. Freer, Chicago.
77 Extension and Flexion in Direct Laryngoscopy. R. H. Johnston, Baltimore.
78 Hemophilia with Remarks on Hemorrhagic Diathesis. T. Hubbard, Toledo.
79 Casts of the Infantile Pharynx: Special Reference to the Eustachian Tube. W. C. Braislin, Brooklyn.
80 The Larynx of Mycetes Seniculus (Howling Monkey). J. Hollinger, Chicago.
81 Zoology of Mycetes Seniculus. F. C. Baker, Chicago.
82 The Various Inflammations of the Ethmoid Bone as Advanced by Uffenorde in His Work "*Die Erkrankungen des Siebbeines*." R. H. Skillern, Philadelphia.
83 Eustachian Obstruction. W. C. Braislin, Brooklyn.
84 Partial Bibliography of Recent Papers Relating to the Eustachian Tube. W. C. Braislin, Brooklyn.
85 Why the Failures After Radical Mastoid? J. F. Barnhill, Indianapolis.
86 Intranasal Measurements Which Indicate that Palatal Expansion Increases the Width of the Nasal Fossæ. E. E. Foster, New Bedford
87 Sinus Thrombosis of Otitic Origin and Its Relation to Streptococcemia. E. Gruening, New York.
88 Recurrent Mastoiditis with Involvement of the Labyrinth. H. B. Blackwell, New York.
89 Sinus Thrombosis, Cellulitis of the Foot and Acute Inflammation of the Thyroid Cartilage. T. L. Saunders, New York.
90 The After-Treatment of Accessory Nasal Cavities Operated On. H. Horn, San Francisco.
91 Latest Advances in the Study of Tinnitus Aurium. D. B. Delavan, New York.

Interstate Medical Journal, St. Louis

May

92 Prognosis in Operations for Appendicitis. M. Savariaud, Paris, France.
93 Cardinal Principles for Successful Feeding of Infants. T. M. Rotch, Boston.
94 *Direct Transfusion of Blood—Its Indications. L. H. Hempelmann, St. Louis.
95 Therapeutic Value of the Carlsbad Cure, Especially in Diseases of the Digestive Tract. L. V. Aldor, Berlin, Germany.
96 A Probable Cause for Extrauterine Pregnancy. F. A. Glasgow, St. Louis.
97 *Standardization of Disinfectants. R. B. H. Gradwohl, St. Louis.
98 Dysmenorrhea of Uterine Origin. S. J. McMamara, Brooklyn.

94. **Transfusion of Blood.**—Direct transfusion, according to Hempelmann, is indicated in postoperative hemorrhage, hemorrhage of typhoid, gastric ulcer, purpura, hemophilia, hemorrhagic disease of the new-born infant, illuminating gas poisoning, and possibly in pernicious anemia. It has been found useless in cancer, Hodgkins' disease, uremia, leukemia and in infectious diseases.

97. **Standardization of Disinfectants.**—Gradwohl endorses the Rideal-Walker method of standardizing disinfectants which is now used and insisted on in Great Britain and throughout Europe as an official standard, bearing the endorsement of the Admiralty, War Office and Local Government Boards of Great Britain. He urges that local, state and government boards in the United States should adopt it and require all manufacturers of disinfectant solutions to label their products clearly to show the carbolic-acid coefficient. If manufacturers are honest in their claims, they should be willing and eager to have official bacteriologic checking of their products with the Rideal-Walker technic. Physicians and laymen should likewise insist on manufacturers showing the carbolic-acid coefficient of their respective products when they desire patronage. In this way the honest manufacturer may make his dishonest competitor come out into the light and be exposed. Only those who are making false claims will oppose this procedure. It is fair to the maker, to the consumer and to the bacteriologists.

Quarterly Bulletin of Northwestern University, Chicago

March

99 Pain in the Ear and Its Diagnostic Significance. J. G. Wilson, Chicago.
100 Gram Stains of Feces in Pellagra. W. H. Duhlig, Chicago.
101 Leucocytosis of the Lymphocyte Type. W. H. Buhlig, Chicago.
102 Puerperal Infection. T. J. Watkins, Chicago.
103 "Laparotomies" of the Knee-Joint. E. W. Andrews, Chicago.
104 Operative Removal of Cervical Ribs. S. C. Plummer, Chicago.
105 Cervical Ribs: Six Cases from the Clinic of Dr. W. E. Morgan. C. F. Sawyer, Chicago.
106 Retroflexion and Retroversion of the Gravid Incarcerated Uterus. H. M. Stowe, Chicago.
107 Gastric Carcinoma with Metastases in the Cervical Glands Simulating Clinically Glandular Tuberculosis. W. H. Buhlig and W. L. McClure, Chicago.

American Journal of Surgery, New York

May

108 *An Improved Method of Preparing Catgut Ligatures. E. McDonald, New York.
109 Methods of Posterior Urethroscopy: Description of a New Cystourethroscope. L. Buerger, New York.
110 Coming Rural Surgery. E. A. Ayers, Branchville, N. J.

111 Scotland's Contribution to Medical and Surgical Development. R. G. Eccles, Brooklyn.
112 Chronic Catarrhal Inflammation of the Middle Ear. L. A. McClelland, Brooklyn.
113 Extirpation of the Rectum for Adenocarcinoma by the Kocher Method. E. Staehlin, Newark, N. J.
114 Lymphangioma: A Case of Macroglossia and One of Macrocheilia. A. A. Kerr, Salt Lake City.

108. **Improved Method of Preparing Catgut Ligatures.**—McDonald has adopted the following method of preparing catgut: (1) Iodin 4 per cent. in acetone, 8 days; (2) wash in acetone, 4 days; (3) preserving solution, acetone, 85 per cent.; Columbian spirits, 10 per cent.; glycerin, 5 per cent. The glycerin should first be dissolved in the alcohol and then added to the acetone, as acetone itself is not a solvent of glycerin. This method is said to possess the following advantages: The solutions are fat solvents and antiseptics; the iodin is used in greater strength than in Claudius' method and it impregnates the gut so that the ligatures are black and well saturated with iodin when they are placed in the clear acetone solution. The pure acetone abstracts the excess of iodin from the gut, leaving the gut clear and white. The preserving solution of acetone, alcohol and glycerin completes the bleaching, and at the same time softens the gut, which is not much softened by the pure acetone. The latter, however, does not harden the gut, but abstracts the water from it and leaves it of the same flexibility as gut that has been preserved in chloroform, as in the well-known commercial process. The addition of the glycerin and alcohol to the acetone in the preserving solution is sufficient in amount to soften the catgut; at the same time the dehydrating power of the acetone prevents the gut from swelling up, as it does when it is placed in alcohol solution. Acetone itself, he states, is also a very strong antiseptic.

Bulletin American Academy of Medicine, Easton, Pa.

April

115 Report of the Delegate to the Conference of the Council of Medical Education of the American Medical Association. H. B. Hemenway, Evanston, Ill.
116 Report of the Delegate to the Annual Meeting of the Association of American Medical Colleges. C. McIntire, Easton, Pa.
117 Influence of Diet on Infant Mortality. J. P. C. Griffith, Philadelphia.
118 Relation of Syphilis to Infant Mortality. R. A. Urquhart, Baltimore.
119 Curative Powers in Human Milk. J. M. Taylor, Philadelphia.
120 Excessive Child-Bearing as a Factor in Infant Mortality. A. Hamilton, Chicago.
121 Infant Morbidity and Mortality with Special Reference to French Methods. C. R. Henderson, Chicago.

New York State Journal of Medicine, New York

April

122 *Elements of Prognosis in Chronic Valvular Diseases of the Heart. R. Abrahams, New York.
123 *Dilatation of the Heart. W. T. Mulligan, Rochester.
124 Significance and Value of the Cammidge Test in Pancreatic Diseases. S. R. Blatteis, New York.
125 Need of Special Schools for Crippled Children. P. Le Breton, Buffalo.
126 Pathology and Treatment of Skin Tumors. F. R. Ford, Utica.
127 Clinical Significance of Subfebrile Temperature in Pulmonary Tuberculosis. A. T. Laird, Albany.
128 Diagnostic Value of Eosinophilia. I. S. Wile, New York.
129 Significance of Amblyopia. G. M. Gould, Ithaca.

122, 123. Abstracted in THE JOURNAL, Feb. 19, 1910, p. 643.

Journal of Medical Research, Boston

April

130 Hypersusceptibility of Anaphylaxis. E. R. Baldwin, Saranac Lake, N. Y.
131 Passive or Transferred Anaphylaxis. A. K. Krause, Saranac Lake, N. Y.
132 The Acquired General Sensitiveness of Normal Guinea-Pigs to Tubercle Protein as a Result of Preliminary Intradermic Injections. A. K. Krause, Saranac Lake, N. Y.
133 *Effect of the Administration of Preparations of Tuberculous Lymph Glands on Experimental Tuberculosis. E. L. Trudeau and A. K. Krause, Saranac Lake, N. Y.
134 Differences in Precipitins Produced by Tubercle Bacilli. E. R. Baldwin, Saranac Lake, N. Y.
135 The Question of Cattle Immunization and the Transformation of the Human Bovine Type of Tubercle Bacillus. E. R. Baldwin, Saranac Lake, N. Y.
136 Use of Antiformin for Detection of Tubercle Bacilli in Sputum, etc. R. C. Paterson, Quebec, Canada.
137 Pathologic Cytology of Surgical Shock. D. H. Dolley, Chapel Hill, N. C.
138 Cytology and Life History of Trypanosomes. E. N. Tobey, Boston.
139 Further Transfusion Experiments. S. P. Beebe, New York.

133. **Action of Preparations of Tuberculous Lymph Glands on Experimental Tuberculosis.**—The experiments conducted by Trudeau and Krause fall into four series; two with homologous gland extracts, and two with extracts of human lymph glands. They found that guinea-pigs treated with material from homologous tuberculous glands are not immunized against the development or spread of experimental tuberculous injection. The gland material in this series probably contained tubercle bacilli. Guinea-pigs treated with filtered extract of homologous tuberculous glands do not resist experimental tuberculosis. This extract was used in a comparatively fresh condition. The experiment was not regarded as a fair test because of the high dilution of the extract and the small number of doses that the animals receive. Guinea-pigs treated with filtered extract of tuberculous human glands showed an apparent resistance to the spread of tuberculous infection. This resistance was probably only apparent. The extract was from glands in various stages of the disease—hyperplastic and necrotic. Treatment was fairly thorough, and the use of the extract was begun immediately after preparation and continued for 6 weeks. Guinea-pigs treated more thoroughly with filtered extract of tuberculous human glands acquired no immunity against infection from tuberculosis or its development. The extract was from glands that showed various grades of disease, from early to advanced. It was concentrated and its use was begun three months after its preparation.

Old Dominion Journal Medicine and Surgery, Richmond

April

140 Hypernephromata. L. B. Wilson, Rochester, Minn.
141 What May Be Learned of Cardiac Disease from Multiple Tracings. W. N. Berkeley, New York City.
142 Acid Intoxications and Their Therapeutic Indication. D. Vanderhoof, Richmond.
143 Nephritis Regarded as a Disorder of Metabolism. E. B. Claybrook, Cumberland.
144 Diphtheria. C. S. Webb, Bowling Green, Va.

Bulletin Medical Chirurgical Faculty of Maryland, Baltimore

May

145 *The Importance of a Thorough Teaching of Infectious Diseases in the Medical Curriculum. C. F. von Pirquet, Baltimore.

145. Abstracted in THE JOURNAL, May 21, 1910, p. 1719.

Journal Indiana State Medical Association, Fort Wayne

April

146 Vaccination Prophylaxis in Typhoid. M. M. Eckelman, Elkhart.
147 Four of the More Common Diseases of the Eye and Their Management. C. M. Howard, Warsaw.
148 Degenerate Tonsils; Causative Factors in Producing Nose, Throat and Constitutional Affections. D. W. Layman, Indianapolis.
149 Sketches of the Medical History of Indiana. G. W. H. Kemper, Muncie.
150 Case of Lead Poisoning. E. M. Hoover, Elkhart.
151 Melena Neonatorum. G. B. Lake, Wolcottville.

Albany Medical Annals

May

152 A Critical Analysis of a Series of 180 Cases of Acute Intraperitoneal Infections. E. MacD. Stanton, Schenectady, N. Y.
153 Rational Treatment of So-Called Inoperative Uterine Tumor. W. B. Chase, Brooklyn.
154 Definitions of "Contagious" and "Infectious." G. E. Gorham, Albany, N. Y.
155 *Hemolysis *in Vitro* and *in Vivo* as a Means of Diagnosis of Carcinoma. A. Krida, Schenectady, N. Y.

155. **Hemolysis in Diagnosis of Carcinoma.**—Of a total of 1,812 observations reported by 10 different workers, 472 cases were carcinoma, and of these 317, or 67 per cent., gave positive hemolytic reactions; 79 were benign tumors, of which 1 or 1.25 per cent. were positive; 507 observations were made in a variety of diseases, 74, or 15 per cent., of which presented positive reaction; 509 observations were made on normal individuals; 14, or 2.6 per cent., were positive. In 40 postoperative carcinoma cases without clinical recurrence, the reaction was uniformly negative. One hundred and eighty-eight tests were performed on tuberculous patients; of these, 82, or 44 per cent., presented Crile's "reverse" hemolysis. Krida has made 76 tests. In 12 cases of carcinoma, the reaction was positive in 9, or 75 per cent. In 4 cases of carcinoma without clinical recurrence the reaction was uniformly negative. In 23 cases of a variety of diseases, 1, or 4 per cent. (chronic ulcers), presented a positive reaction. Of 25 clinically well patients, 2, or 8 per cent., responded positively to the reaction. In a certain small number of cases not clinically carcinomatous, a positive

reaction was obtained. There were in all 5 such cases, in all of which Krida applied a second test 2 or 3 days after the first. The second test was positive in 3 of the cases; one of these was a case of chronic ulcers; 2 individuals were normal. In the remaining 2 patients, clinically well, the test proved negative. The hemolytic reaction occurs in so great a percentage of carcinoma cases and in so small a percentage of normal individuals and patients with other diseases, which conditions can usually be differentiated, as to make it of material diagnostic assistance in doubtful cases, especially in doubtful cases of carcinoma of the gastro-intestinal tract. Especially as it is so simple of application, Krida holds that it should be performed in all suspected carcinoma cases. The "*in vivo*" or "skin" reaction, because of its better scientific basis, and because it is technically less difficult and time-consuming, Krida regards as the clinical method of choice.

Southern Medical Journal, Nashville

April

156 Philosophy, Therapeutic Value and Present Status of Mental Suggestion. J. D. Quackenbos, New York.
157 Treatment of Simple Fractures. D. Eve, Nashville.
158 The Great Black Plague. R. W. Weaver, Nashville, Tenn.
159 Examination of Infant Stools with Special Reference to So-Called Casein Masses. R. G. Owen, Iowa City.

American Journal of Physiology, Boston

May

160 A Quantitative Study of Faradic Stimulation: IV. The Make and Break Key. E. G. Martin, Boston.
161 *Effects of Distilled Water and of Various Solutions on the Weight and Length of Striated Muscle. E. B. Meigs, Boston.
162 Modifications of the Method in Use for Determining the Quantity of Mono-Amino Acids Yielded by Proteins when Hydrolyzed with Acids. T. B. Osborne and D. B. Jones, New Haven, Conn.
163 Exchange of Air in the Eustachian or Guttural Pouches of the Horse. P. A. Fish, Ithaca, N. Y.

161. **Effects of Distilled Water and of Various Solutions on Muscles.**—Meigs' investigation shows that the sarcostyles of the striated muscles of frogs are so constructed that any increase in their volume brings about, as a necessary mechanical result, a decrease in their length. All forms of muscle rigor are due to the swelling produced by an accumulation of acid within the muscle. The removal of rigor with salt solution, and particularly by salt solutions which contain small quantities of sodium bicarbonate, is explained by the removal of the acid reaction of the muscle. The conclusion of McDougall seems to be correct, that the contraction of striated muscle is the result of the swelling of the sarcostyle, which in its turn is brought about by the examination within them of the minute quantities of lactic acid.

Journal of Arkansas Medical Society, Little Rock

April

164 The Collection of Morbidity and Mortality Statistics in Relation to the Control of Tuberculosis. D. S. Warren, Washington, D. C.
165 Presentation of Tuberculosis Patients. A. E. Sweatland and D. C. Walt, Little Rock.
166 Prevention of Disease. E. G. Epler, Fort Smith.
167 Removal of a Grain of Corn from the Entrance of the Left Bronchus of a Child Four Years Old. R. H. T. Mann, Texarkana.

Wisconsin Medical Journal, Milwaukee

April

168 Is There a Phthisical Conformation of Chest? W. H. Washburn, Milwaukee.
169 *Extrauterine Pregnancy at Full Term. Report of Cases. H. Greenberg, Milwaukee.
170 Present Status of the Ocular Tuberculin Reaction. S. G. Higgins, Milwaukee.
171 Chronic Auriculoventricular Heart Block in the Dog. J. Erlanger, Madison.
172 Extradural Hemorrhage. P. F. Rogers, Milwaukee.

169. These cases were reported in an original article by this author, published in THE JOURNAL, May 7, p. 1517.

University of Pennsylvania Medical Bulletin, Philadelphia

April

173 Reversion of the Starch-Dextrin Reaction. E. T. Reichert, Philadelphia.
174 A Circulation Schema. E. Lodholz, Philadelphia.
175 The Medical Side of Benjamin Franklin. W. Pepper, Philadelphia.
176 Experiments to Determine the Toxicity of Chromic Acid in Dilute Aqueous Solutions when Injected Intramuscularly and Its Antidotal Value for Rattlesnake Venom. W. H. Welker, Philadelphia.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

April 30

1 *The Less Common Aspects of Pneumonia. T. Oliver.
2 *Points Concerning Pneumonia and Pneumococcus Infections in Childhood. T. R. C. Whipham.
3 *Hospital Infection of Tuberculosis. J. E. Squire.
4 Meningitis in Children. G. Rankin.
5 An Immunizing Subinfection in Scarlatina. A. D. Edwards.
6 *Results of Thyroid Treatment in Infantile Wasting. J. W. Simpson.

1. **Less Common Aspects of Pneumonia.**—Oliver has not seen any striking result follow the use of pneumococcus serum, nor can he recall a case of pneumonia having been saved by the inhalation of oxygen. Strychnin and digitalis have given him the best results. With pneumonia, he says, as with many other illnesses, it is not the disease solely that requires to be treated, but the patient with the disease.

2. **Pneumonia in Childhood.**—Whipham emphasizes the fact that while bronchopneumonia is the more frequent type in early life, the lobar variety is commoner than is often supposed. Thus among 150 of his own cases he found that 65, or 43.3 per cent., were of the lobar type. The chief clinical distinction between the two are these: (1) lobar pneumonia is almost always primary, while bronchopneumonia is very frequently secondary; (2) the onset of lobar pneumonia is sudden and the symptoms are well-marked, whereas bronchopneumonia begins insidiously as a rule; (3) the temperature in the lobar form tends to be more uniformly high and to end by crisis, whereas in the other the course of the fever is prolonged and irregular and rarely ends abruptly; (4) lobar pneumonia usually affects a localized area of one lung, at any rate to begin with, while bronchopneumonia is bilateral and more extensive; (5) bronchopneumonia tends to occur at a slightly earlier stage than lobar. Lobar pneumonia, according to Whipham's experience, is most frequent during the second, third and fourth years, 56.9 per cent. of his cases occurring during those years, whereas bronchopneumonia chiefly occurs during the first three years of life, as many as 70.6 per cent. of his cases being found in infants under 4 years of age. In lobar pneumonia one or other of the bases is most frequently attacked, most commonly the left, but in children it is not unusual for the apex of the lung to be affected. It is a remarkable fact that if one apex is involved—primarily and not as the result of the extension of the disease from the lower lobes—it is practically always the right apex which is attacked.

3. **Hospital Infection of Tuberculosis.**—It would appear from the experience of the Mount Vernon Staff, of which Squire is a member, that the risk of infection with tuberculosis in a special chest hospital is very small, and is apparently little, if at all, greater than in a general hospital. It is, perhaps, doubtful if there is any greater risk to the workers in any well-ordered hospital than among the general mass of town dwellers of similar social position. Infection with tuberculosis does occasionally occur as a result of the duties of a nurse, but probably not more frequently among the nurses in a hospital for consumptives than among the general body of nurses. Every occupation has its special risks, and the possibility of infection is one which members of the medical and nursing profession accept as a matter of course. The risk of tuberculous infection, even in a hospital for consumptives, appears to constitute a very slight danger.

6. **Thyroid Treatment in Infantile Wasting.**—Out of a total of 80 patients treated with thyroid by Simpson, 72 were infants under 9 months, and their history was usually one simply of wasting. In the 8 over this age the wasting had supervened after some acute disease. Out of the total (80), 12 died and 5 did not return to the hospital after treatment had been carried on for 2 or 3 weeks. In the 12 cases which ended fatally, 2 children were extremely ill. In both these children the weight was 4 pounds, and both showed evidence of failing

circulation, edema of legs, etc. One died 2 days, and the other 4 days, after being first seen. Two others suffered from marasmus due to congenital syphilis; of the other 8 who died 1 improved for some little time, but eventually died of tuberculous meningitis, 2 were from the country and were only seen a few times, while the remaining 5 did not react to treatment in the slightest degree. The remaining 63, however, all did well. No doubt a number of those infants would eventually have improved on dieting alone, but the fact remains that they failed to put on weight for the first 2 or 3 weeks on such treatment, and that on the addition of thyroid (the same dieting being continued) a number of them at once increased rapidly in weight, while some who remained stationary for a week or two showed beneficial results after that time. Five of Simpson's patients were syphilitic, and wasting was a marked symptom. Mercury was at first given without any effect on the weight, then alone with mercury, thyroid was administered. The result was that 3 out of the 5 infants began to gain and eventually recovered. The other 2 (already noted) did not react at all and death ensued. Of 8 children over 9 months old who were suffering from malnutrition, following an attack of an acute disease, 6 improved on thyroid treatment, 1 died of tuberculous meningitis, and 1 was lost sight of. Simpson has only mentioned 8 cases of older children, but in the last 6 months he has used thyroid frequently for such children suffering from debility after such acute diseases as pneumonia, measles, and whooping-cough. The results have been favorable, except in those cases which proved to be tuberculous; in such cases thyroid treatment would seem to be contraindicated. In the treatment of children under 9 months, Simpson begins with ⅓ grain thyroideum siccum once daily. In older children, he goes up to 1 grain once daily, according to the age of the child. In the giving of thyroid it is advisable, he says, to test the feces to see whether they are acid or alkaline. In 2 cases in which thyroid appeared to produce no good results, he found that the stools were very markedly acid. Sodium bicarbonate was then given 3 times a day, and shortly afterward both children began to improve.

Lancet, London

April 30

7 Amputations at the Hip and Shoulder. C. B. Lockwood.
8 Further Work on the Pressor Bases of the Urine. W. Bain.
9 The Obstruction of the Ileum which Develops in Chronic Intestinal Stasis. A. Lane.
10 Sigmoiditis and Mesosigmoiditis. R. P. Rowlands.
11 Vicious Circles Associated with Disorders of the Nervous System. J. B. Hurry.
12 Origin, Scope and Authority of the British Pharmacopeia. H. W. Gadd.

Journal of Tropical Medicine and Hygiene, London

April 1

13 A Microfilaria in the Blood of a Horse at Khartoum. A. Balfour.
14 The Pathogenesis of the Female Crescent Body. H. M. Neeb.
15 Malaria Treated with Calcium Permanganate. G. A. Stephens.
16 Trichiniasis in a Native of Sierra Leone. D. Burrows.

April 15

17 Bilharzia of Large Intestine. A. W. Jones.
18 The Daily Variation of Body Temperature in Health. M. D. O'Connell.

British Journal of Children's Diseases, London

March

19 Investigation into the Occurrence of Adenoids in Three of the London County Council Elementary Schools (continued). M. Yearsley.
20 Bilateral Cervical Rib in a Child. S. Barling.
21 The Control of Zymotic Enteritis. J. Allan.

Glasgow Medical Journal

April

22 *Carcinoma of the Stomach with Metastases in the Bone-Marrow, and a Blood Picture Suggestive of Pernicious Anemia. A. W. Harrington and J. H. Teacher.
23 Gonorrheal Arthritis Treated by Vaccine Therapy. W. R. Jack.
24 Cases Treated by Injections of Bacterial Vaccines. J. Miller.
25 *Case of Merycism. J. Lindsay.

22. **Gastric Carcinoma with Bone Metastases.**—In this case the emaciation of the patient and the melena, with a history of occasional dyspepsia, and on one or two occasions of vomiting of brownish material, were sufficient to arouse suspicion. Still the gastric symptoms were not clamant, and on examination of the abdomen nothing abnormal could be made out beyond some distention. No enlarged glands could be felt. The patient's general condition vetoed gastric analysis. The only complaint was of pains in the back and thighs. There was some tenderness in the sacral region and over the left thigh. Any movement of the body or lower limbs appeared to cause great pain. The appearance of the patient was that of a woman who had been losing blood and weight for some time, and her emaciation during her hospital residence was rapid. Carcinoma of the stomach seemed a probable diagnosis. The blood picture was foreign to that usually seen in the anemia of cancer of the stomach, and was suggestive of pernicious anemia. Postmortem showed the tumor of the stomach to be a carcinoma. The secondary growths in the kidney, bone marrow and lymphatic glands showed a tendency to atrophy of the epithelial element and development of fibrous stroma. The white tissue filling the ribs and cancellous heads of the long bones proved also to be tumor. Some parts of the tumor in the bones showed young cellular carcinomatous tissue, but the greater part was more or less degenerated, showing shrunken cells, and a large amount of fibrous stroma. Many large areas consisted of fibrous tissue only, but the nature of this was easily made out by tracing the stages in the transformation between it and the young tumors. Most of the red areas in the ribs were found to represent hemorrhage, but a few were red marrow. The head of the femur likewise contained much more tumor than red marrow; and the vertebral bodies showed a large proportion of marrow, but on the whole, rather more tumor. The red marrow had, in fact, almost entirely disappeared from its normal sites.

25. **Merycism.**—Lindsay's patient, aged 56, had regurgitated and remasticated his food since boyhood. He began his working life as a baker, and was the fourth generation of his family to follow that occupation. He suggested that the hurried meals and irregular hours attaching to the work of a baker in the country may have had something to do with the habit; but he admits that it had begun while he was still a boy at school. Haste in eating is, however, associated with regurgitation; for the solid portions of a meal that has been imperfectly masticated usually return to the mouth, sometimes half an hour, sometimes three or four hours after being first swallowed. The regurgitation is altogether involuntary, and when his appetite is poor it may not occur for a week at a time. It is not preceded by any feeling of discomfort or other evidence of indigestion. The remastication is pleasurable, the food, he says, being softer and sweeter than when first taken.

Indian Medical Gazette, Calcutta

March

26 The Causation of Diseases of the Heart and Aorta in Europeans in India. J. W. D. Megaw.
27 Gleanings from the Calcutta Postmortem Records. L. Rogers.
28 Technic of Intracapsular Extraction. W. E. McKechnie.
29 Prevention of Hydrophobia. F. A. Smith.
30 Transmission of Plague in the Absence of Rats and Rat Fleas. E. A. Walker.

Australasian Medical Gazette, Sydney

March

31 Medical Inspection. G. H. Hogg.
32 Physical Education. A. B. Brockway.
33 Scope of Hygiene in Modern Education. M. Boot.
34 A Trial of Nastin. J. A. Thompson.
35 *A New Method of Ether Anesthesia. R. W. Hornabrook.
36 Treatment of the Varied Manifestations of Tuberculosis. H. C. Hinder.
37 Cervical Laminectomy for Trauma of the Neck: Recovery. H. R. Cope.
38 Chorioepithelioma Malignum. C. E. Todd.
39 Lymphatic Leukemia in a Child of 3½; Blood Examination. E. C. Chisholm.
40 Extrauterine Pregnancy with Enormous Enlargement of the Fallopian Tube, but no Rupture. E. F. Sezke.
41 Raynaud's Disease. R. W. Stewart.

35. **New Method of Ether Anesthesia.**—The method used by Hornabrook is one of open ethyl chlorid followed by open ether. The mask used is an ordinary wire frame, covered with one layer only of very thin flannel. The mask is placed on the patient's face, and the patient told to breathe quietly and naturally; that there will be no unpleasant sensation of suffocation, and that after a few drops of the anesthetic have been placed on the mask a pleasant floating sensation will come over him. The ethyl chlorid is dropped, not sprayed on to

the mask. If ethyl chlorid is sprayed on, it freezes on the mask, does not act so well on the patient, and more is used than necessary; the drops should be rapid and spread over a wide area; from 3 to 8 c.c. are generally required. Hornabrook has never seen any sign of collapse under this open ethyl chlorid method, and in one case 25 c.c. were dropped on the mask to try its effect on the patient. The patient passes under the anesthetic rapidly and pleasantly, without any feeling of suffocation or discomfort. After 5 c.c. of ethyl chlorid have been dropped on the mask, a few minims of ether are dropped—that is in ordinary women or anemic men; if the patient is full-blooded or alcoholic, it is better to pass from ethyl chlorid to chloroform before going on with the ether. As a rule not more than 30 minims at the most of chloroform are necessary before muscular relaxation is obtained, and ether can then be substituted. Muscular relaxation when once obtained does not return to rigidity except in very rare instances, and even if it does, a few drops of chloroform will reduce it. The time taken to place the patient under anesthesia ready for the knife is from three to five minutes from the first drops of ethyl chlorid. A patient can be maintained under this open ether for any length of time. There is practically no secretion of mucus, so that the air passages remain clear; the breathing is quiet and easy; the color of the patient remains excellent, it being very rare to see blueness, even in prolonged cases; the patient recovers from the anesthetic very quickly; the pupils should be maintained very active and of medium size throughout; and the upper lid should remain elastic to the touch. Care must be taken that the anesthetist has two masks, for after a time a coating of moisture forms on the under surface of the flannel and this acts as a barrier between the patient and the ether, so that the patient gets none or very little ether in spite of the quantity poured on the mask, and the patient then commences to come out. The mask should be changed for a dry one before this happens, and the old one wiped free from moisture to be used again later; it may be necessary in a prolonged operation to change the mask more than once. The amount of ether poured on the mask varies with the length of the operation, but, speaking generally, about 20 minims every half minute, the quantity used is from 4 to 5 ounces in the first hour and less in the second. The state of anesthesia induced is light, the muscular relaxation good, and even should there be rigidity, as may be the case, it is easily overcome with a few drops of chloroform. The patient can be brought out of the anesthesia very easily and rapidly, in fact, it many respects it resembles sleep rather than deep narcosis of an anesthetic, the shock of even a very prolonged and severe operation is well-borne, the patient being in no way depressed as he would have been under chloroform, or irritated by concentrated ether vapor and excessive secretions of mucus as under a closed method.

Australasian Medical Journal, Melbourne

March 20

42 Relative Value of Chloroform and Ether as General Anesthetics. E. H. Embley, Melbourne.
43 Ether Anesthesia. T. Sutherland.
44 *New Method of Ether Anesthesia. R. W. Hornabrook.
45 An Apparatus for the Continuous Administration of Saline and Other Fluids by Rectum. J. Ramsay.
46 Infantile Gastroenteritis. R. L. Forsyth.
47 Rouleaux Formation of the Blood Cells. A. E. Taylor.

44. See abstract No. 35.

Annales des Maladies des Org. Génito-urinaires, Paris

March 20, XXVIII, No. 6, pp. 481-576

48 False Passages Caused by the Catheter. (Des fausses routes.) F. Legueu.
49 *Value of and Indications for Pyelotomy for Removal of Calculi in the Renal Pelvis. C. Périneau. Commenced in No. 4.
50 Advantages of Suprapubic Incision with the Bladder Empty. (La taille hypogastrique à vessie vide.) F. Lastaria.
51 Gonococci and Pseudogonococci. L. Wormser.

April 1, No. 7, pp. 577-672

52 *Pathogenesis of Renal Hematuria. B. Motz.
53 Case of Hydronephrosis from Obstruction of Ureter with a Stone Afterward Partially Absorbed. E. Hauch and J. E. Lohse.
54 Pathogenic Rôle of Abnormal Renal Arteries. A. Pousson.

49. Superiority of Pyelotomy.—Périneau advocates this operation as no more serious than nephrotomy, while it spares the kidney parenchyma and there is less danger of hemorrhage and tendency to a fistula later. Calculi are more frequently found in the renal pelvis and the pyelotomy permits retrograde probing of the upper ureter to determine the presence of other stones. He declares that, accompanied by Roentgen-ray examination, pyelotomy is destined to take the first place in operations for calculi in the calices, pelvis and upper ureter. His article is based on 103 operations of the kind done at the Lariboisière hospital.

52. **Hematuria.**—Motz ascribes renal hemorrhage to some inflammatory lesion rather than to mere congestion.

Archives des Maladies de l'App. Digestif, Paris

March, IV, No. 3, pp. 113-176

55 Two Cases of Stenosis of Esophagus and Pylorus from Action of Caustic. P. Duval and G. Pascalis.
56 *Indirect Method for Estimating Total Amount of Gastric Content. (Modification de la méthode de Mathieu-Rémond.) A. Laboulais and R. Goiffon.
57 Remote Results of Gastroenterostomy in Non-Cancerous Stenosis of the Pylorus. T. Papadopoulos.

56. Simplification of Mathieu Method of Determining Amount of Stomach Content.—The technic was mentioned in THE JOURNAL, April 2, 1910, page 1175.

Archives de Médecine des Enfants, Paris

April XIII, No. 4, pp. 241-320

58 *Importance of Sterilizing Infants' Clothing. (Emploi de linges stérilisés chez le nourrisson.) E. Weill.
59 Mechanical and Bloodless Method of Inducing Albuminuria and Nephritis in Rabbits. R. Fischl.
60 *The Meningeal Reaction in Chronic Encephalopathies in Children. R. Voisin and G. Paisseau.

58. Importance of Sterilizing Infants' Clothing.—A similar article was abstracted in THE JOURNAL, Dec. 18, 1909, page 2136.

60. Meningeal Reaction in Encephalopathies.—Voisin and Paisseau report three cases which emphasize the necessity in every case of meningeal symptoms for inquiry as to the inherited taints, the course of the birth, mental development and development and functioning of the legs. Lumbar puncture is useful to exclude meningitis. Any casual intoxication or infection is liable to rouse an old silent lesion of the nerve centers or at least render it clinically appreciable.

Bulletins de la Société de Pédiatrie, Paris

March, XII, No. 3, pp. 129-187

61 Symmetrical Vascular Nevi. C. Leroux and R. Labbé.
62 Enlarged and Indurated Thymus in Boy of 4. Thymectomy, Tracheotomy and Resection of the Manubrium. Fatal Mediastinitis. M. D'Oelsnitz, Prat and Boisseau.
63 Severe Erythemas in Course of Typhoid. L. Ribadeau-Dumas and Harvier.
64 Meningeal Reactions in Scarlet Fever. G. Paisseau and L. Milhit.
65 Determination of Stercobiline as Aid to Prognosis. (Recherche de la stercobiline par le sublimé acétique comme élément de pronostic.) E. C. Aviragnet and Dorlencourt.
66 Occult Intestinal Hemorrhage and Helminthiasis in Children. (Entérragies occultes et helminthiase intestinale chez les enfants.) G. Railliet.
67 Steeple-Shaped Head with Atrophy of Optic Nerve. (Oxycéphalie avec atrophie optique.) F. Terrien.
68 *Hemorrhage in Suprarenals Due to Chloroform. M. Savariaud, Pellot and Tinel.

68. Hemorrhage in Suprarenals After Chloroform Anesthesia.—The patient was a boy of 8 requiring a 20 minute operation to correct eventration 18 months after appendicectomy. The operation and anesthetization proceeded smoothly but soon afterward the child became very restless and signs of acute intoxication became apparent—green diarrhea, vomiting, profound depression, drop in the blood pressure, extreme tachycardia and tendency to erythema; the little patient died in six days, the syndrome in general suggesting acute suprarenal insufficiency of a pseudoperitonitic form. All the organs were found congested but the suprarenals had been the seat of extensive hemorrhage.

Lyon Médical, Lyons

March 27, XLII, No. 13, pp. 677-744

69 The Physiologic Value of the Leucocytes, and Its Appreciation by Means of "Vital Staining." A. Policard.

April 3, No. 14, pp. 745-796

70 Bronchoesophagoscopy. A. Sargnon.

April 10, No. 15, pp. 797-852

71 Operative Treatment of Hypertrophy of the Thymus Plus Tracheal Stenosis in Four-Months-Old Babe. E. Weill, M. Péhu and J. Chalier.

Presse Médicale, Paris

April 20, XVIII, No. 32, pp. 289-296

72 *Albumin Reaction in the Sputum. (Albumino-réaction des expectorations.) H. Roger and Levy-Valensi.

April 23, No. 33, pp. 297-312

73 Experimental Research on Acute Epidemic Poliomyelitis. C. Levaditi.
74 Primary Tumors of the Blood-Producing Tissues. (La lymphadénie atypique.) M. A. Clerc.
75 Sympathetic Aches and Hyperesthesia of the Abdomen. (Les algies sympathiques et l'hyperesthésie de l'abdomen.) M. Loeper and C. Esmonet.
76 Fracture of the Base of the First Metacarpal Bone. S. Rolando.
77 Serotherapy of and Vaccination Against Acute Articular Rheumatism. G. Rosenthal.

72. **Albumin Reaction in Sputum.**—Roger and Valensi state that sputum from the tuberculous always contains more or less albumin, while a mild, simple bronchitis or pulmonary emphysema does not add this albuminous element to the sputum. Its presence indicates a deeper inflammation or exudation. The absence of albumin thus permits tuberculosis to be excluded: its presence has less decisive value as there are a number of processes that may cause albumin to appear in the sputum. They relate experiences to show the simplicity and ease of the albumin sputum test. The sputum is collected in a dry recipient, as free from saliva as possible, never using sputum containing blood. The sputum must be fresh, as decomposition splits the mucin and liberates albumin. It is mixed with an equal amount of water, stirred and a few drops of acetic acid added to coagulate the mucus. The mixture is then filtered through ordinary filtering paper and heated to coagulate the albumin; a little sea salt has to be added to ensure the coagulation of the albumin in the absence of electrolytes; other means can be used to test for the presence of albumin. In 64 cases of tuberculosis and in 29 reported by Oddo the findings were almost invariably positive. This was particularly important in 31 cases in which the diagnosis was wavering and the finding of albumin in the sputum aided in differentiating the disease; the diagnosis was confirmed by the course of the cases later. In one case the test was negative as also the tuberculin test until a large dose of tuberculin was given when there was a febrile reaction and albumin was found in the sputum, but as soon as the reaction had subsided all the findings were negative again and the patient has been in good health since. This case demonstrates the value of the albumin reaction, as negative findings, even with tuberculous infection, show that the process has been arrested.

Revue de Chirurgie, Paris

March, XXX, No. 3, pp. 327-562

78 Gunshot Wounds of the Knee. (Des corps étrangers "projectiles" de l'articulation du genou.) E. Quénu.
79 Arteritis and Arterial Embolism with Uterine Fibroma. A. Schwartz and L. Bory.
80 *Caries of the Hip Joint without Effusion in Relation to Deforming Juvenile Paralysis. (La carie sèche de la hanche et l'arthrite déformante juvénile.) G. Rottenstein and G. Houzel. Commenced in No. 2.
81 Tumors of the Submaxillary Gland. M. Chevassu. Commenced in No. 2.

April, No. 4, pp. 563-750

82 *Continuous Stream of Oxygen in the Treatment of Abdominal Disease. (De l'emploi du courant continu d'oxygène en chirurgie abdominale.) T. Weiss and L. Sencert.
83 *So-Called Idiopathic Hematuria. (Sur les hématuries dites essentielles.) R. Robinson and J. Jacoulet.
84 *Ischemic Paralysis and Contracture of Volkmann. (Quelques notions fondamentales sur la retraction musculaire ischémique de Volkmann.) A. Binet. Commenced in No. 3.
85 *Paralysis with Dislocation of the Shoulder. (Les paralysies dans les luxations de l'épaule.) P. Delbet and A. Cauchoix.

80. **Dry Caries of the Hip Joint.**—The authors state that this special form of tuberculous arthritis in the hip is analogous to that known as Volkmann's dry caries of the shoulder. The lesions have been described under the heading of juvenile deforming osteoarthritis or torpid or atypical coxalgia. Pain, functional impotence and muscular contracture are the main features at first; the absence of fungous granulations and of effusion is also characteristic. The affection tends to a spontaneous cure by ankylosis, the course lasting two years at least. In three of the ten cases mentioned operative treatment was applied on a mistaken diagnosis, but continuous extension with plaster immobilization to favor ankylosis in a good position is the treatment recommended. The article is accompanied by the bibliography.

82. **Continuous Current of Oxygen in Treatment of Abdominal Disease.**—Weiss and Sencert discuss the value and the mode of action of the application of a constant stream of oxygen in the treatment of surgical abdominal affections. The hundreds of cases in which the method has been applied abundantly confirm the advantages of this method, which is based on the biologic properties of oxygen, the results of experimental research and histologic examination demonstrating that in the presence of microbes the oxygen promotes the diapedesis of white corpuscles, augments their phagocytic properties, and stimulates the vitality of the reparative elements. They have applied the method in gaseous gangrene, suppurating arthritis, purulent pleurisy, diffuse phlegmon and osteomyelitis and chronic suppuration with compound fractures—the results were always good but it was after operations that it proved most beneficial. They review their experience in detail, reiterating that oxygen injected into the abdominal cavity has an important stimulating action on the cardiovascular and respiratory system; it prevents the formation of adhesions, induces hyperemia and promotes healing, and in case of intraabdominal septic effusions, arrests absorption of septic fluids. Its curative action is enhanced if it is transformed *in situ* into ozone by Roentgen-ray exposures. The oxygen is introduced in a continuous flow through a buttonhole in the anterior abdominal wall and it flows out through various drains, the cavity thus being continually flushed by the gas. It forces out along with it pus and serous effusion, aiding materially in the draining and cleansing of the cavity. Weiss and Sencert give the details of 5 cases in which oxygen irrigation was applied, and will continue their report in the next number of the *Revue*.

83. **Idiopathic Hematuria.**—Robinson and Jacoulet discuss hematuria of angioneurotic, toxic, portal and varicose origin and hematuria from efforts, showing that medical treatment may give good results in all these forms of so-called idiopathic hematuria. It is beyond question, they state, that hematuria may occur without any lesions in the kidney, and that medical treatment will generally prove successful. If operative interference becomes necessary, nephrotomy is the best technic for the purpose, followed by suturing. Nephrotomy seems to have a double action, relieving congestion at once and later reducing the arterial afflux by obliteration of some of the vessels. The functioning of the kidney does not seem to be affected by incision and prompt suturing of the kidney, owing to the compensating hypertrophy of the intact parts of the organ. The various experiences that have been published are reviewed in detail. The view formerly accepted that some lesion in the kidney always preceded the hematuria has been disproved, the authors assert, by the later experiences and researches.

84. **Ischemic Paralysis and Contracture of Volkmann.**—Binet's monograph is based on 141 cases including one from his own experience, and discusses the cause and treatment. He states that the physician cannot be regarded as responsible for this syndrome except in case of great negligence. In treatment the best technic is by a plastic operation on the tendon with resection of the radius and ulna, which seems to be the only means for radical treatment of this ischemic retraction.

85. **Paralysis from Dislocation of the Shoulder.**—Delbet and Cauchoix insist on the importance of operative treatment as early as possible before the sclerous perineuritis completely destroys the conducting power of the nerves. They have found thirty-six cases on record which they review in detail with the technic for operative treatment.

Revue de Médecine, Paris

April, XXX, No. 4, pp. 233-344

86 New Research on the Intestinal Poisons. H. Roger and M. Garnier.
87 Rôle of the Leucocyte Ferments in the Resolution of Pneumonic Exudate. (Étude de la crise pneumonique.) N. Fiessinger and P. Bauffe.
88 Remote Propagation of Pericardial Friction Sounds. (Propagation des frottements péricardiques.) J. Paviot and J. Delachanal.
89 Scarlet Fever. III. (La scarlatine à l'hôpital Claude-Bernard en 1908.) A. Gouget.
90 Myelogenous Osteopathies. (Rachitisme.) L. Bernard.

Semaine Médicale, Paris

April 27, XXX, No. 17, pp. 193-204

91 Relative Rarity of Acute Tuberculosis Among the Jews. (La tuberculose chez les juifs.) L. Cheinisse.

Beiträge zur Geburtshilfe und Gynaekologie, Leipsic

XV, No. 2, pp. 166-316. Last indexed Jan. 29, p. 417

92 Relation of the Lower Segment of the Uterus to Placenta Prævia. H. Bayer.
93 Anatomic-Physiologic Reasons for Capacity for Breast Nursing or the Lack of It. (Stillungsfähigkeit und ungenügende Stillfähigkeit aus anatomisch-physiologischen Gründen.) K. Hegar.
94 The Causes of Infantilism. F. A. Kehrer.
95 Decidua Cells and Their Importance. F. Ritter.
96 *Graft Metastasis of Cancer in Laparotomy Incision. (Zur Frage der Implantationsmetastasen in der Laparotomiewund nach Extirpation karzinomatöser Genitalorgane.) H. Raabe.
97 Failure of Methods for Predetermination of Sex. (Zur Frage der Voraussbestimmung des Geschlechts beim Menschen.) W. Weinberg.
98 *Histologic Changes in the Ganglion Cells of the Human Spinal Cord in Spinal Anesthesia. (Veränderungen der Ganglienzellen des menschlichen Rückenmarks bei der Lumbalanästhesie.) J. Ogata and G. Fujimura.

96. **Operative Graft Metastasis of Cancer.**—Raabe reports a case of primary carcinoma in a Fallopian tube with metastasis in the abdominal wall, and another of a carcinomatous tubal cyst with metastasis in the ovary. According to his compilation, the first is the eighty-second case on record of a primary tubal carcinoma and the other the thirteenth tubo-ovarian cancerous cyst. From his study of the anatomy of the parts and of the literature he is convinced that there is no case on record of true operative graft metastasis in the laparotomy wound after removal of carcinomatous genital organs.

98. **Transient Changes in Spinal Cord After Spinal Anesthesia.**—Ogata and Fujimura were able to demonstrate histologic changes in the ganglion cells after spinal anesthesia. The course of the two cases studied and the findings in the animals, however, indicated complete restitution after a certain interval.

Beiträge zur klinischen Chirurgie, Tübingen

March, LXVI, No. 2, pp. 193-361

99 *Hernial Sac Tissue for Substitution of the Dura and Its Importance for Operative Treatment of Jacksonian Epilepsy. (Ueber den plastischen Duraersatz und dessen Bedeutung für die operativen Behandlung der Jackson-Epilepsie.) H. Finsterer.
100 Unusual Case of Internal Incarcerated Hernia. (Fall von innerer eingeklemmter Hernie.) H. Finsterer.
101 Perforation of Rectum with Consecutive Peritonitis. A. Kimmerle.
102 *Ultimate Result of Operative Treatment of Traumatic Jacksonian Epilepsy. K. Cluss.
103 Autoplastic Substitution of Finger Tendons by Tendons from Back of Hand. (Autoplastischer Ersatz der Streck- und der Beugesehnen der Finger durch entbehrliche Sehnen des Handrückens.) V. v. Hacker.
104 Compound Traumatic Injuries of the Bladder. (Zur Kasuistik der offenen traumatischen Verletzungen der Harnblase.) P. Wolfer.
105 Radioscopic Examination of Fracture in Child's Skull. (Ueber Schädeldachbrüche bei Kindern im Röntgenbilde.) H. G. R. Denks.
106 The Leucocytic and Fluid Defenses of Human Organism against Bacterial Infections. (Die leukocytären und humoralen Kampfmittel des Menschen gegen bakterielle Infektionen.) H. Rubritius.
107 *Tuberculous Stenosis of the Pylorus. H. v. Tappeiner.
108 Local Anesthesia Supplemented by Epinephrin Anemia, Especially for Operations on Head and Throat. (Zur Anwendung der Lokalanästhesie und Suprarenininanämie.) F. Penckert.
109 Experimental Research on Surgery of the Bronchus. M. Tiegel.

99. **Operative Treatment of Jacksonian Epilepsy.**—Finsterer reports that he introduced a piece of hernial sac under the dura to prevent the latter's growing to the pia and brain below. This was done at a second operation, the first having been done to remove a splinter of bone, and the second to correct the adhesion of the dura to the brain. Hacker has been using for some time pieces of hernial sac, obtained at a herniotomy on another patient, as an effectual means for preventing the growing together of tissues in operations on tendons and nerves, and experiments on animals have confirmed the advantages of this material for use under the dura. The results have been followed for a year to date in some of the experiments. In conclusion, Finsterer reports a second case in which the subdural implantation of a piece of hernial sac has also put an end to the disturbances to date; it was done at the fourth operation in this case, the implantation of a celluloid plate not having arrested the convulsions for more than a year.

102. **Ultimate Outcome of Operations for Jacksonian Epilepsy.**—Cluss reports a case in which the patient was operated on over 18 years ago for Jacksonian epilepsy and has had no further signs of the trouble since the operation. The patient at the time of the trauma was 24 years old; the first operation revealed a subdural cyst in the cortex which was excised. A few mild seizures were observed during the first six months after the operation but none since then. In connection with this case he reviews 21 others in the literature in which operative treatment has been followed by a cure for more than 3 years. Recurrence has been known even after an interval of 3 or 5 years of apparent health. Patients under the age of 30 are more liable to complete recovery after operation. The duration of the latency or active phase of the epilepsy does not seem to have a decisive influence on the results of surgical treatment. The prospects of benefit are better when there are gross local changes than in the absence of such. Temporary resection of the skull is advisable, he believes, to obtain insight into conditions. The dura should be incised, but it is not necessary to make a dura valve, and neither is it indispensable that the center involved should be resected. Paralysis from resection of brain substance generally disappears entirely after a time.

107. **Tuberculous Stenosis of the Pylorus.**—Tappeiner reports a case in which a boy of 12 had suffered for about 9 months from pains in the stomach and vomiting, rare at first but gradually becoming more frequent until they occurred after every meal and the child lost 17 pounds in weight. On the diagnosis of pyloric stenosis gastroenterostomy was done, and great improvement followed. The stenosis proved to be, as suspected, of a tuberculous nature but the child's condition did not permit resection. In 26 similar cases of tuberculous stenosis in the literature, resection was done in 8 cases, and in the others gastroenterostomy, excision of the ulcer, pyloroplasty or merely an exploratory laparotomy. Nearly all the patients succumbed within a year to the progress of the tuberculosis in other organs. In 4 cases the patients were under 20, in 7 over 40.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 1, XL, No. 10, pp. 289-320

110 Serodiagnosis of Syphilis. (Betrachtungen über die Serodiagnostik der Syphilis auf Grund praktischer Erfahrungen und statistischer Ergebnisse.) G. Seiffert and P. Barteczko. Concluded in No. 11.
111 Cammidge Reaction Not Specific for Pancreatic Disease. E. Bernoulli.

April 10, No. 11, pp. 322-352

112 *Preventive Serotherapy of Tetanus. (Zur Präventivimpfung bei Tetanus.) E. Bär.

112. **Preventive Serotherapy for Tetanus.**—Bär reports two cases in which preventive injection of 10 c.c. of antitetanic serum did not prevent the development of the disease, although in one the symptoms were restricted to the arm, the local tetanus running its course to recovery in a week. In the other there were no symptoms for four weeks when fulminating general tetanus developed.

Deutsche medizinische Wochenschrift, Berlin

April 21, XXXVI, No. 16, pp. 737-784

113 *Treatment of Hysteria. E. Romberg.
114 *Differentiation of Neurasthenic Pains, Palpitations and Angina Pectoris. (Zur Diagnostik der neurasthenischen Schmerzen, Nervöses Herzklopfen und Angina pectoris.) J. Kollarits.
115 *Material Bases for and Prognosis of Traumatic Neuroses after Concussion of the Brain. (Kommotionsneurose.) M. Friedmann. Commenced in No. 15.
116 *Comparative Research on Wassermann and Globulin Reactions and Lymphocytosis with Organic Nervous Disease. (Wassermannsche Reaktion, Lymphozytose und Globulinreaktion bei Erkrankungen des Nervensystems.) A. Wolff.
117 Muscle Rigidity and Light Touch Palpation as Signs of Lung Disease. (Rigidität der Muskeln und die leichte Tastpalpation als wichtige Zeichen zur Erkennung der Lungenkrankheiten.) F. M. Pottenger and A. Wolff-Eisner.
118 *Dilatation of Prostatic Urethra in Treatment of Hypertrophy of the Prostate. (Zur Behandlung der Prostatahypertrophie durch Prostatadehnung.) F. Kraemer.

113. **Nature and Treatment of Hysteria.**—Romberg explains hysteria as a congenital morbid disturbance in the course of

associations; in hysterical anesthesia the periphery feels, the spinal cord conducts and the central convolution receives, but the complicated phenomena on the other side of the cortex are lacking. No conscious impression results. If it is possible to restore the association here normal conditions return, and some slight impetus may restore the consciousness which awakes like the sudden remembrance of a word that has momentarily escaped the memory. In children and in persons whose mental development is not much beyond that of childhood, this restoration occurs particularly easily because the physiologic development favors the reception of new associations. Thus the child hangs on the words of the story-teller while it is difficult to fasten the interest of adults. In treatment it is important to accept the disturbances as real. It is wrong to exhort patients to exert their will; the aim should be to divert attention from the disturbances. He remarks that many cases of hysteria in children are really only the hysteria of the mothers. It is important, he adds, to seek to train the abnormally functioning associations, especially by light systematically increasing work. This diverts the mind, which pleasure, theaters, etc., fail to accomplish. The measures which cure by a sudden impression are more liable to be effectual with children and persons with uncultivated minds. The after-treatment is extremely important following a cure of this kind, not allowing from any one expressions of surprise or suggestion that the trouble had been due to the lack of will power. The recovered functioning should be promoted by systematic exercise. The main point is to have the physician win the confidence of the patient and avoid everything tending to mysticism, especially hypnosis.

114. **Differentiation of Neurasthenic Pains.**—Kollarits calls attention to the fact that neurasthenic pains are generally improved by movement, contrary to the pain in true rheumatism and arthritis. This applies also but less constantly to neurasthenic palpitations and pseudoangina pectoris. The physician should ask whether the pain is increased by movements or walking or becomes less, with care to refrain from suggesting the answer. With the attack of neurasthenic pain, the patient generally jumps up and walks to and fro, during which the pain subsides. The attack of pain is often accompanied by general restlessness, palpitations and sweating. The neurasthenic pain in a joint is not very violent but is more a sensation of pressure or smarting. Neurasthenics are generally extremely sensitive to heat and to constriction from tight collars. Nervous pains are not benefited by hot water treatment; exercise in the open air is the main reliance. Kollarits adds that if digitalis is given at all, it must be given with great care as it is liable to do harm if the patient knows he is taking digitalis, this confirming him in the idea of organic heart disease.

115. **Traumatic Neurosis After Concussion of the Brain.**—Friedmann states that no one needs to be spared so much as a patient during the first two years after a concussion neurosis. Increasing experience with industrial accidents has taught that the course is toward gradual improvement to complete recovery, even with concussion of the brain. After from 4 to 7 years from 60 to 70 per cent. of the patients may be regarded as essentially cured. The worst factor in the matter of traumatic neuroses, he declares, is not the patient's weak will nor his desire for sick pay, but it is the attitude of the employers who dislike to employ these semi-invalids. Partial earning capacity is therefore about equivalent with total incapacity and the injured workingman has every reason to strive to obtain the highest possible indemnity, especially if he is near the age of 40.

116. **Comparative Research on Wassermann and Globulin Reactions and Lymphocytosis in Differentiation of Nervous Disease.**—Wolff tabulates the findings with these three tests applied to the spinal fluid, remarking that the globulin reaction is the most instructive as it is invariably negative when there is no existing parasyphilitic or metasyphilitic nervous affection, even with a history of old syphilis. (The globulin reaction or "phase I" was first described by Nonne and his work on the subject was published in THE JOURNAL July 24, 1909, page 289.) The Wassermann and globulin reactions in the spinal fluid were constantly negative in 6 cases of neurasthenia and 6 of epilepsy, while the globulin reaction was always positive in 40 cases of tabes, 30 of paralytic dementia, and 7 out of 8 cases of cerebrospinal syphilis.

118. **Treatment of Hypertrophy of the Prostate by Dilatation of the Prostatic Urethra.**—Kraemer followed Bayer's advice as a last resort in a recent severe case of enlarged prostate, the patient having refused to submit to an operation, and began systematic dilatation of the constricted upper end of the urethra. The patient was a man of 66 who after a five-day attack of ischuria was unable to void normally a drop of urine for more than five weeks. Then dilatation was commenced, using first a Béniqué sound, caliber 23, 24 and 25 French. In the course of 11 days and 8 sittings the caliber was increased gradually and the dilatation was finally completed with a rapid dilator, the lumen thus being opened to a caliber of 44, equivalent to a lumen of 1.6 cm. When any blood was noticed in the urine a retention catheter was introduced and left for a day or two. By the end of the 11 days the patient was urinating spontaneously without trouble, and when last heard from, a month after the dilatation, he was spontaneously voiding an average of 2 liters of urine daily. Bayer uses a special dilator with which he is able to dilate the lumen to 2 cm. without injury of the urethra as he determined by tests on the cadaver. In his 11 cases, 4 of the patients were permanently cured, he states, and 3 materially improved, but no benefit was derived in 3 other cases with extreme hypertrophy and cystitis. Kraemer did not attempt the dilatation until after he had cured the complicating cystitis by appropriate measures in his case.

Medizinische Klinik, Berlin

April 24, VI, No. 17, pp. 653-690 and Supplement

119 Operative Treatment of Extreme Myopia. (Operation der Kurzsichtigkeit höchsten Grades.) W. Goldzieher.
120 *Thickness of the Adipose Tissue in Abdominal Wall as Index of Condition of Nourishment in Adults. (Die Fettpolsterdicke als index der Ernährungszustandes bei Erwachsenen.) G. Oeder.
121 Transplantation of Tissues. (Zur Gewebstransplantation.) C. Ritter.
122 *Diagnostic Importance of Occult Gastrointestinal Hemorrhage. (Zur diagnostischen Bedeutung okkulter Magen und Darmblutungen.) L. Kuttner. Commenced in No. 16.
123 Origin of Laryngeal Tuberculosis. (Entstehung der Kehlkopftuberkulose.) E. Brandenburg.
124 Therapeutic Indications for Vichy Thermal Waters. Chabrol.
125 *Pericarditis with Effusion. (Zur Klinik der Pericarditis exsudativa.) R. Bernert.

120. **Thickness of the Abdominal Wall as Index of State of Nourishment.**—Oeder has been seeking for years for some means to express the general state of the nourishment of patients and has tabulated the findings in regard to height, weight, size, chest measure, etc., but no formula that he was able to work out from them seemed to express the actual condition of the nourishment. On the other hand, the thickness of the layer of adipose tissue in the abdominal wall seems to be directly proportionate to the general state of the nourishment. In 1,920 separate examinations he found 936 persons of the lean type, 607 of the normal and 377 of the fat type. He estimates the thickness of the fat by taking up a fold to the right of the umbilicus and measuring it with calipers. With the lean type the fold measures from 0.75 to 3.5 cm., averaging 1.1 cm. or nearly half an inch; with the normal type about 2.75 cm., or 1⅛ inches, and with the fat type, 4.41 cm., or 1¾ inches. All adults therefore with this index larger than 2 inches should be regarded as abnormal, as also those with an index of less than ⅜ inch. The difference for sex, age and height is so small that it can be disregarded. This index may throw light on individual indications, whether more nourishment is needed or more exercise, and when normal conditions have been attained under dietetic or other treatment.

122. **Occult Hemorrhage in Gastrointestinal Tract.**—Kuttner reviews the information to be derived from discovery of occult blood in the stool or stomach content but he warns that many causes may be responsible for it. Occasionally the occult bleeding may give the clue to the correct diagnosis, but, as a rule, its discovery does not throw light on the diagnosis but tends to make it still more laborious.

125. **Pericarditis with Effusion.**—Bernert reports 4 cases of pericarditis with effusion in which there were a number of

atypical features. The patients were young men between 21 and 24 and the extensive effusion occurred again and again, but seemed to be entirely absorbed during the intervals. The intermittent-remittent effusion developed and was reabsorbed with remarkable rapidity. In one case there was nothing left of the large effusion by the end of the week; then it rapidly returned but subsided anew within 2 days and not a trace was left by the end of another 3 days. Another striking feature of the cases was the sac-like protrusion of the left lower side of the pericardium. In some of the cases the pulse was smaller in the left carotid and radial arteries than in the corresponding vessels on the right side, but this sign of compression from the large pericardial effusion disappeared as the effusion retrogressed. The same cause may induce transient dilatation of the pupil on one side from irritation of the sympathetic. The involvement of the phrenic nerve may entail paresis of half of the diaphragm and hiccough and involvement of the vagus, vomiting and violent coughing. He discusses in detail the percussion findings with this atypical intermittent form. There was a history of acute articular rheumatism in only one of the four cases reported; the others were evidently of tuberculous origin. Enlarged glands at the hilus of the lung were manifest in each. In all the cases the affection progressed to adhesive pericarditis.

Monatsschrift für Geb. und Gynäkologie, Berlin

April XXXI, No. 4, pp. 415-536

126 Slowing of the Pulse During the Puerperium and its Cause. (Pulsverlangsamung im Wochenbett und ihre Ursache.) L. Lewisohn.
127 Axial Torsion of the Gravid Uterus. (Achsendrehung des schwangeren Uterus.) L. K. Glinski.
128 *Treatment of Rupture of the Uterus. E. Issel.
129 *Rupture of the Symphysis During Delivery. L. A. Kriwski.
130 *Indications for and Advantages of Cold Irrigation of the Vagina. (Ueber kalte Scheidenirrigationen.) T. Alexandrow.
131 Intraperitoneal Shortening of the Round Ligaments. (Ueber intraperitonealer Verkürzung der Ligamenta rotunda.) M. Hirsch.

128. **Treatment of Rupture of the Uterus.**—Issel reports 9 cases of rupture of the uterus during delivery. The 2 fatalities were from peritonitis resulting from the reduction of the intestines prolapsed into the vagina, five hours before the operation, in one case, and from hemorrhage on the operating table in the other case. Immediate ligation of the hypogastric and ovarian veins on both sides is an important factor in treatment; it spares the patient further loss of blood and the operation proceeds in a bloodless field. He advocates prompt abdominal hysterectomy, as fatal rupture is peculiarly liable at a later pregnancy when the first rupture was given merely conservative treatment. The communication issues from Krönig's obstetric service at Freiburg. The general practitioner is advised to send the patient to a hospital as soon as the rupture is discovered, refraining from any attempt to complete the delivery. The experience of Schütte, Petren and others that these ruptured women are able to stand transportation even from a considerable distance was confirmed in Issel's cases, one patient being brought from a neighboring town to the clinic. The patient either succumbs at once to the hemorrhage—which is rare—or small repeated hemorrhage occurs, allowing time for the woman to be taken to a hospital. If conditions are favorable, the abdominal hysterectomy can be done in the home. If institutional care is not attainable, the delivery can be cautiously completed, followed by tamponing, or if the hemorrhage is not severe, by merely draining the wound cavity. With one exception, a primipara of 29, his patients had all borne from 5 to 8 children. In this case the posterior vault of the vagina was accidentally perforated about 3 hours after spontaneous childbirth, during an attempt to separate the placenta by hand. The abdomen was opened and the vaginal wall found torn from the uterine cervix; the tear was readily sutured and the abdomen closed without further interference. The patient was discharged cured after passing through a severe puerperal fever. Hysterectomy was done in all but one of the other cases, with or without leaving the adnexa intact on one or both sides.

129. **Rupture of the Symphysis During Delivery.**—Kriwski's patient was a woman of 33 who had already borne 6 children, the deliveries being normal and unusually rapid. The seventh pregnancy had been preceded by typhoid; after the onset of labor there were two attacks of convulsions and labor was prolonged for over 24 hours. Then forceps were applied and a very large child delivered. A cracking sound was heard during the traction with the forceps, and after extraction of the child blood issuing from the urethra directed attention to the rupture of the symphysis; two fingers could be inserted in the gap. The hemorrhage soon ceased spontaneously and the patient recovered without further mishap except for persistence of tenderness in the sacral region and incontinence of urine. She did not complain of pain or tenderness in the symphysis at any time. The tendency to incontinence seems to be growing less; it is probably the result of some tear in the urethra near the sphincter.

130. **Application of Cold in the Vagina.**—Alexandrow uses a coil of tubing wound so as to fit over the cervix and against the deeper vaginal walls, and sends ice water through the tubing. His experience with this cold irrigation, he says, has been gratifying in the suitable cases. He describes some of his clinical experience and his experimental research in this line, reiterating that both cold and hot applications should be regarded as important therapeutic measures in treatment of the female sexual organs. Cold irrigation is indicated to enhance the action of unstriped muscle, either in the vessel walls or in the supporting ligaments. Hot irrigations are useful to increase the absorbing power of the vascular apparatus, as the arterial hyperemia induced favors absorption of effusions in the pelvic connective tissue or peritoneum. The cold irrigations are useful, he states, with subinvolution of the puerperal uterus from weakness in the uterine musculature and vessel walls. The temperature in the region is reduced much more than by application of an ice bag outside. In one of the cases reported the gravid uterus had become incarcerated and the cold irrigation was applied twice for half an hour to prepare the uterus for the supposed inevitable operation, but this proved unnecessary, the cold having evidently caused such contraction of the uterine musculature that the organ, thus reduced in size, had spontaneously righted itself.

Münchener medizinische Wochenschrift

April 19, LVII, No. 16, pp. 833-888

132 Experiences with Tuberculin in Diagnosis and Treatment in Pulmonary Tuberculosis. F. Rolly.
133 Influencing of Local Tuberculin Reaction by Acute Febrile Processes. H. Krannhals.
134 Calcium Chlorid Method for Enriching Tubercle Bacillus Cultures. (Neues einfaches Anreicherungsverfahren für Tuberkelbazillen.) A. Zahn.
135 *The Meiostagmin (Drop-Forming) Reaction in Typhoid, Tuberculosis, Echinococcus and Ankylostoma Disease. G. Izar.
136 *Etiology of Carcinoma. A. Theilhaber and S. Greischer.
137 Operative Treatment of Double Thumb. (Zur operativen Behandlung der Daumenschere.) H. Hilgenreiner.
138 Does the Side-Chain Theory Harmonize with Known Facts? (Ist die Ehrlichsche Seitenkettentheorie mit den tatsächlichen Verhältnissen vereinbar?) I. Bang and J. Forssman.
139 The Wassermann Reaction and the General Practitioner. F. Plaut.
140 Treatment of Most Frequent Gastrointestinal Disturbances in Infants. (Behandlung der häufigsten Magen- und Darmstörungen der Säuglinge.) H. Dörfler. Commenced in No. 15.

135. **The Meiostagmin Reaction in Typhoid, Etc.**—In this communication Izar gives the details of the application of the test for changes in the drop-forming property of the serum in various diseases, this being the material on which the preliminary report was based, mentioned in THE JOURNAL, April 2, 1910, page 1177.

136. **Nature and Treatment of Carcinoma.**—Theilhaber and Greischer discuss the statistics gathered by F. Theilhaber which showed that carcinoma of the uterus is comparatively infrequent among the rich and among Jewish women, while mammary carcinoma is far more frequent among the unmarried, the rich and Jews. He ascribed this fact to the lesser number of pregnancies, tight lacing and racial peculiarities. Greischer has also found gastric cancer more frequent among the poor and especially frequent among cooks, while rectal cancer is more liable to be encountered in the rich, and most frequently of all in men holding high official positions. As a whole, they state, there are more cases of cancer among the rich, and the disease develops at a later age. Cancer is more frequent among the Jews, they believe, all organs inclusive. The mortality from cancer has doubled at Munich during the last

forty years. Theilhaber ascribes great importance to cicatricial tissue as a factor in the development and especially in the recurrence of cancer. Trauma and cicatrix disturb the metabolism in the mesodermal tissue and this permits encroaching proliferation of ectodermal elements. Normally the mesoderm holds them in check and he suggests that possibly an extract of mesodermal tissue might prove effectual in checking the growth of incipient cancer or preventing recurrence. He adds that possibly in the attempt to remove all morbid tissue the operative trauma has been made unnecessarily extensive. It is certainly suggestive, he remarks, that Schröder had 19 patients radically cured after an interval of 4 years out of 96 who had survived resection of the cervix 30 years ago on account of cancer. This incomplete operation evidently left morbid elements but the organism was able to cope with them. As a logical consequence of his view he suggests the advisability of means to prevent development of cicatricial tissue and to promote normal conditions in the region by artificially inducing hyperemia with application of heat, electricity, stasis and suction devices, wet cupping and, with uterine carcinoma, hot vaginal douches and ingestion of ovarian substance.

Wiener klinische Wochenschrift, Vienna

April 21, XXIII, No. 16, pp. 573-612

141 Rôle of the Liver in Resorption of Fat. (Experimentelle Untersuchungen über die Bedeutung der Leber bei der Fettresorption unter normalen und pathologischen Verhältnissen.) G. Joannovics and E. P. Pick.
142 Comparative Serologic Research on Tuberculosis and Syphilis. R. Müller and E. Suess.
143 Nature and Causal Treatment of Exophthalmic Goiter. (Morbus Basedowi.) S. Federn.
144 Relations between Uterine Myoma and Goiter. E. Ullmann.
145 Test for Adrenalin in the Blood. (Ueber Adrenalinämie.) M. Selzer and G. G. Wilenko.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXVI, No. 1, pp. 1-213. Last indexed February 19, p. 661

146 Review of 1,558 Obstetric Cases. (Wochenbetts- und Säuglingsstatistik.) Sanders.
147 *Operation for Total Uterine Prolapse. R. Jolly.
148 *Adenomyoma of the Uterus. M. Yamasaki.
149 Present Status of Theory in Regard to Placental Origin of Eclampsia. F. Schenk.
150 Congenital Displacement of Uterine Mucosa in the Cervix. (Kongenitale Heterotopie der Uterusschleimhaut in das Kollumgewebe. Ein Beitrag zur Lehre der Adenomyome.) A. Labhardt.
151 *Cesarean Section plus Tubal Sterilization. (Drei Fälle von Kaiserschnitt.) M. Flesch.
152 Ovarian Sarcomas and their Complications. A. Wermuth.
153 Nodular Hypertrophy of Fallopian Tubes. (Zur sogenannten Salpingitis isthmica nodosa.) J. Wallart.
154 Bacteriologic Data as Aid in Abdominal Operations for Cancer. (Welche Hinweise geben uns bakteriologische Untersuchungen für die Methodik der Wundversorgung bei abdominalen Gebärmutterkrebsoperationen?) W. Hannes.

147. **Operation for Total Prolapse of the Uterus.**—Jolly describes with illustrations his technic for operative treatment of total prolapse of the uterus which he has applied in thirty-three cases in Olshausen's gynecologic service at Berlin. The method, he says, is similar to that recently published by Polk, but he operates exclusively by the vaginal route. Two of the patients succumbed to pulmonary embolism, another to diabetic complications. The high mortality from embolism may be due, he thinks, to the injury of the veins in the floor of the pelvis during the posterior colporrhaphy. Pulmonary embolism occurred in 6 out of 500 other operations requiring this colporrhaphy during the last few years in the service while in a preceding series of 634 cases there were only 2 deaths from this cause. Not until the last few years has it been the practice to take the deep suture in the musculature of the floor of the pelvis, and it is a question, he remarks, whether the advantages of this technic outweigh the danger of pulmonary embolism. Simple removal of the prolapsed uterus alone does not protect against recurrence, but with the technic described it seems to be possible to ensure a solid and well-shaped vagina. The ultimate results have been excellent in all the cases in which it has been applied.

148. **Adenomyoma of the Uterus.**—Yamasaki concludes from the case reported and what he has learned from the literature that total hysterectomy is the only means of certain cure in adenomyoma of the uterus.

151. **Cesarean Section.**—Flesch protests that the question as to the best technic for Cesarean section is merely that as to the possibility of simultaneously sterilizing the woman so as to prevent further conception. When conditions are so serious as to demand Cesarean section and there is no prospect for future normal deliveries, he combines tubal sterilization with the operation. The question of a supplementary sterilizing operation should be considered in cases of manifest deformity, severe rachitis, osteomalacia and a tendency to placenta prævia, but not for eclampsia, as this affects predominantly primiparæ although serious chronic impairment of the kidneys may afford an argument in its favor in some cases.

Zentralblatt für Chirurgie, Leipsic

April 16, XXXVII, No. 16, pp. 569-600

155 Synthetic Suprarenin. H. Braun.
156 *Plastic Operation after Resection of Shaft of Long Bone. (Ueber Knochenplastik nach Resektionen an langen Röhrenknochen.) W. Bittner.

156. **Plastic Operation After Resection of Shaft of Long Bone.**—Bittner resected the lower half of the tibia down to the epiphysis on account of sarcoma. The gap thus left was filled with a corresponding piece cut out of the remaining upper half of the same bone. With the wire saw and chisel the tibia was cut in half up into its tuberosity, and the portion thus mobilized was turned over downward, bringing the upper part down to the epiphysis where it was sutured. A wire also held the lapping ends of the bones together in the center. The leg was put in a plaster cast for some time, with which the child, a girl of 13, was allowed to be up and about after the sixth week. The result has been satisfactory; the leg is scarcely 1.5 cm. shorter than its mate and can be normally used. The illustration accompanying the article is stated in a later issue to be incorrect, and a corrected view of the technic is given on page 644.

Zentralblatt für Gynäkologie, Leipsic

April 16, XXXIV, No. 16, pp. 529-560

157 Extraperitoneal Cesarean Section. (Extraperitonealer Kaiserschnitt nach Latzko.) S. Cholmogoroff.
158 Technic for General Anesthesia. (Zur Frage der Narkosenasphyxie.) O. Burckhardt-Socin.
159 *Digital Compression of the Aorta to Control Postpartum Hemorrhage. (Die Digitalkompression der Aorta als blutstillendes Mittel bei Nachgeburtsblutungen.) E. Engelhorn.
160 Proposed Compilation of Data for Protection for Women at Childbirth. (Zur Statistik für Wochenschutz.) A. Buecheler.
161 Improved Forceps for Seizing the Uterus. (Uterushaltezange mit abnehmbaren Griffen.) M. Hirsch.

159. **Digital Compression of the Aorta for Postpartum Hemorrhage.**—Engelhorn comments on the hard, retracted condition of the uterus when there has been much loss of blood. Nature evidently striving thus to arrest the hemorrhage. The frequency of this explains the great rarity of directly fatal postpartum hemorrhage. Momburg's belt constriction arrests postpartum hemorrhage by the same means, the shutting off of the blood supply starting vigorous retraction in the uterus. He is convinced that the same effect can be realized by systematic compression of the aorta with the fingers, pressing it back against the spine until the femoral pulse ceases to be perceptible. In two normal cases in which this compression was applied for 150 pulse beats, the uterus contracted vigorously and the placenta was early expelled. This also occurred in a case in which extreme atony had been the rule in three previous pregnancies with threatening hemorrhage each time. Immediately after the birth of the child the aorta was compressed in this way for 150 beats and the uterus contracted normally. At any sign of relaxation the compression was applied anew for a minute or so. Each time the uterus responded with a contraction and there was no abnormal hemorrhage. Similarly good results were obtained in another case in which part of the placenta had to be removed by hand. Engelhorn adds that to Momburg belongs the credit of calling attention anew to the advantages of this simple method of controlling uterine hemorrhage and the means of control by the femoral pulse becoming imperceptible.

Zentralblatt für innere Medizin, Leipsic

April 16, XXXI, No. 16, pp. 393-416

162 *Etiology of Glycosuria. (Zur Aetiologie der Glykurie.) F. Rosenberger.

162. **Glycosuria of Nervous Origin.**—Rosenberger reports a case in which diabetes developed after a severe nervous strain.

and also a case in which periods of excitement or worry were always followed by transient glycosuria.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 17, XXXI, No. 46, pp. 481-496

163 Recent Italian Research on Smallpox and Vaccine. (Le recenti osservazioni Italiane sul vaiolo e sul vaccino.) E. Bertarelli.

164 Hernia not an Industrial Accident but an Industrial Disease. (Il concetto dell' ernia quale infortunio sul lavoro non ha il suffragio anatomico.) F. Bindi.

April 19, No. 47, pp. 497-504

165 Petroleum and Benzin for Surgical Sterilization of the Skin. C. Zatti.

April 21, No. 48, pp. 505-512

166 Morphologic and Cultural Characteristics of the Parasite of Infantile Splenic Anemia. (Sui caratteri morfologici e culturali del parassita del anemia splenica infantile.) G. Di Cristina and S. Cannata.

April 24, No. 49, pp. 513-528

167 *Gynecologic Expert Testimony in Murder Case. (Una perizia ginecologica.) L. M. Bossi.

168 Occult Blood in Stools with Trichocephalus. (A proposito della "reazione di Weber e tricocefalo." M. V. Carletti.

167. **Gynecologic Expert Testimony in Murder Case.**—Bossi gives the bases for his testimony in a recent murder case at Venice in which for the first time a gynecologist was called on for his specialist opinion. The accused was a Russian woman with a history of insanity in the family, married at 16, the menses always irregular and painful. She had been left with chronic inflammation in the adnexa after her second pregnancy ten years before; the uterus was three times the normal size and bound down in retroflexion, interfering with the bladder and intestine functioning, and thus entailing more or less stagnation of the intestinal content and of the urine and of the secretions in the abnormally flexed uterus. He testified that the resulting persisting autointoxication must have had an injurious effect on the material and psychic functioning of the nervous system.

Policlinico, Rome

April 24, XVII, No. 17, pp. 515-546

169 *Shortened Technic for Exclusion of the Pylorus. (Nuovo metodo per l'esclusione del piloro.) G. Parlavecchio.

170 Ifire Results of Trusting to Asepsis Alone in Home Deliveries. (La tooria della sola asepsi nell'assistenza al parto e le sue conseguenze.) L. M. Bossi.

April, Medical Section, No. 4, pp. 145-192

171 *Treatment of Infectious Nephritis. U. Arcangeli.

172 Metabolism of Lime, Magnesium and Phosphoric Acid in the Healthy and in the Gouty. (Il ricambio del calcio, del magnesio e dell'acido fosforico nell'uomo sano e nel gottoso.) P. Ciuffini.

173 The Mechanism of Gallop Rhythm. (Sul meccanismo del ritmo di galoppo.) C. Pezzi.

169. **Shortened Technic for Exclusion of the Pylorus.**—Parlavecchio comments on the advantages of exclusion of the pylorus under certain conditions but states that the operation is so long and tedious that many shrink from it on this account when otherwise it might be indicated. He now proposes a simpler method than the von Eiselsberg technic hitherto generally used. On dogs it required only from 2 to 4 minutes longer than a simple gastroenterostomy. Instead of cutting off the pylorus from the rest of the stomach he merely throws a ligature around it at the point where the incision would be made by the usual technic, thus shutting off the region of the pylorus as completely as if it had been resected. He uses a strong, non-elastic ligature and proliferation of cicatricial tissue soon completely shuts off the part beyond.

171. **Treatment of Infectious Nephritis.**—Arcangeli analyzes his experiences with nephritis at the Rome policlinic, his conclusions being that the specific drug indicated should be used without paying too much attention to the influence it may have on kidney functioning; especially in syphilitics it is hard to know whether the nephritis is of syphilitic nature or not. With negative Wassermann findings, he advises against mercurial treatment. Diphtheria antitoxin is useful, he states, in the nephritis that accompanies diphtheria. In streptococcus or staphylococcus nephritis he advises vaccines used according to Wright's technic; this may also prove useful in nephritis from the diplococcus, etc. In acute nephritis with fever his experience warns against the use of drugs to reduce the fever and also of heat to induce sweating, but the fever should not be left untreated, and for this he advises cold hydrotherapy, graduated to the intensity of the fever.

Ugeskrift for Læger, Copenhagen

April 14, LXXII, No. 15, pp. 417-452

174 *Successful Operative Treatment of Megacolon. (Et Tilfælde af Hirschsprung's Sygdom, behandlet med Tarmresektion.) J. Schou.

174. **Successful Operative Treatment of Megacolon.**—Schou's patient was a boy of 14 who had had intestinal disturbances from early childhood. They finally became so serious that his abdomen became enlarged to measure 106 cm. while the rest of the body was much emaciated. The enlarged segment of the colon included the flexure, the descending and part of the transverse colon, all of which were removed, the segment measuring 90 cm., nearly a yard, in length and as large around as a man's thigh. The child has developed normally since the operation and has a daily movement of the bowels unaided.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

APPLETON'S NEW PRACTICAL CYCLOPEDIA. Edited by Marcus Benjamin, Ph.D., Editor of the United States National Museum, Washington, D. C., assisted by Arthur E. Bostwick, Librarian of the St. Louis Public Library; Gerald Van Casteel, Chief of Editorial Staff; George J. Hagar, Expert Compiler and Statistician, with an Introduction by Elmer E. Brown, Ph.D., United States Commissioner of Education. In Six Volumes. Cloth. Price, $18 the set. Pp. 3000 (about). New York: D. Appleton & Co., 1910.

THE PRODUCTION AND HANDLING OF CLEAN MILK. Including Practical Milk Inspection. By Kenelm Winslow, M.D., M.D.V., B.A.S. (Harv.), Chairman of the Committee on Milk of the Washington State Medical Association. And Essentials of Milk Bacteriology. By H. W. Hill, M.D., Minnesota State Board of Health Laboratories. Cloth. Price, $3.25. Pp. 367, with 101 illustrations. New York: W. R. Jenkins C., 1910.

DIE INDIKATIONEN ZU CHIRURGISCHEN EINGRIFFEN BEI INNEREN ERKRANKUNGEN. Für den Praktiker bearbeitet von Dr. Hermann Schlesinger, k.k. Primar-Arzt im k.k. Allgemeinen Krankenhause in Wien. Mit einem Anhange von Dr. Julius Schnitzler, k.k. Primar-Arzt im k.k. Krankenhause Wieden in Wien. Paper. Price, 12 marks. Second Edition. Pp. 614. Jena: Gustav Fischer, 1910.

THE HARMFUL EFFECTS OF ACETANILID, ANTIPYRIN AND PHENACETIN. U. S. Department of Agriculture, Bureau of Chemistry, Bulletin No. 126. By L. F. Kebler, M.D., Chief, Division of Drugs, with the Collaboration of Drs. F. P. Morgan and Philip Rupp, Assistant Chemists. Paper. Pp. 85. Washington: Government Printing Office, 1909.

DIE SPINALE KINDERLÄHMUNG. Eine klinische und epidemiologische Studie. Von Dr. Eduard Müller, Direktor der Medizinischen Universitäts-Poliklinik in Marburg, mit Unterstützung von Dr. med. M. Windmüller, Assistenzärztin der Poliklinik. Paper. Price, 6 marks. Pp. 170, with 21 illustrations. Berlin: J. Springer, 1910.

HARMFULNESS OF HEADACHE MIXTURES. By L. F. Kebler, M.D., Chief, Division of Drugs, Bureau of Chemistry, and Drs. F. P. Morgan and Philip Rupp, Assistant Chemists. U. S. Department of Agriculture. Farmers' Bulletin 377. Paper. Pp. 16. Washington: [Superintendent of Documents] Government Printing Office, 1909.

HABIT-FORMING AGENTS: Their Indiscriminate Sale and Use a Menace to the Public Welfare. By L. F. Kebler, Chief, Division of Drugs, Bureau of Chemistry. U. S. Department of Agriculture. Farmers' Bulletin 393. Paper. Pp. 19, with 5 illustrations. Washington: Government Printing Office, 1910.

MEDICAL ELECTRICITY AND RÖENTGEN RAYS. With Chapters on Phototherapy and Radium. By Sinclair Tousey, M.D., Consulting Surgeon to St. Bartholomew's Clinic, New York City. Cloth. Price, $7 net. Pp. 1116, with 750 illustrations. Philadelphia: W. B. Saunders Co., 1910.

ANNUAL REPORT OF THE BUREAU OF HEALTH FOR THE PHILIPPINE ISLANDS. By Victor G. Heiser, M.D., Director of Health, Passed Assistant Surgeon, United States Public Health and Marine-Hospital Service. July 1, 1908, to June 30, 1909. Paper. Pp. 193, with illustrations.

PROCEEDINGS OF THE NINTH ANNUAL CONFERENCE OF SANITARY OFFICERS OF THE STATE OF NEW YORK. Held at Convention Hall, Rochester, Nov. 10-12, 1909. Paper. Pp. 296. Albany: New York State Department of Health, Division of Publicity and Education.

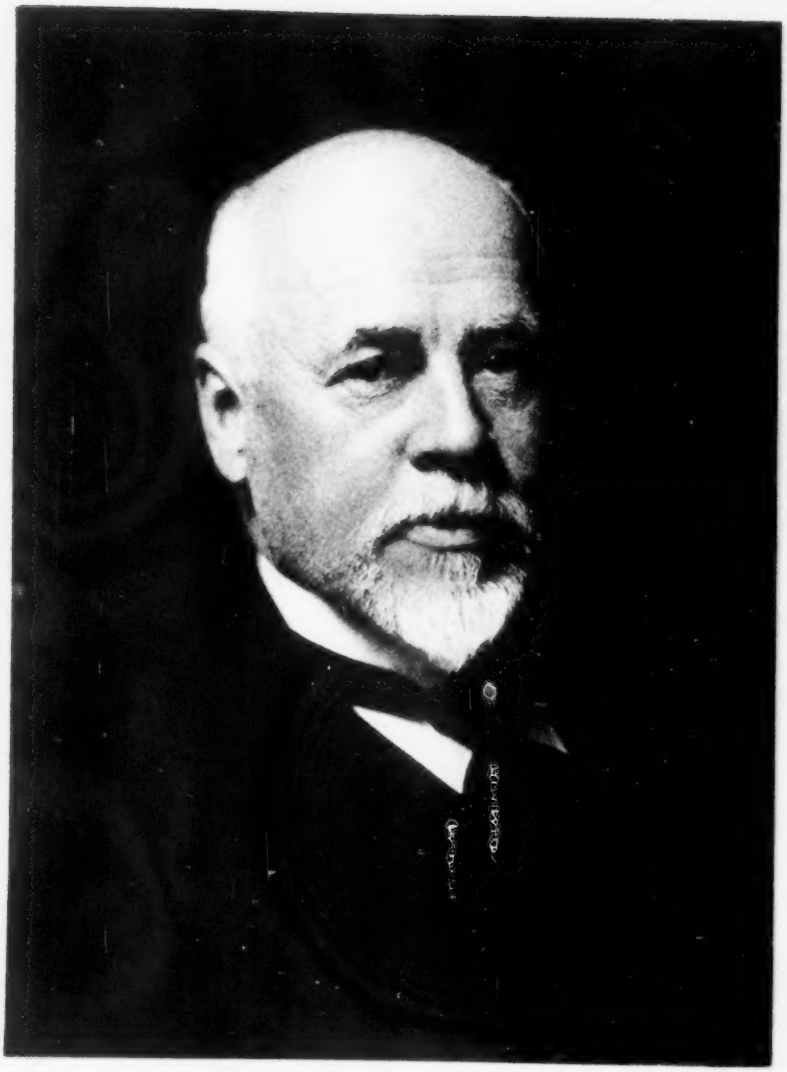
THE PATHOLOGY OF THE LIVING AND OTHER ESSAYS. By B. G. A. Moynihan, M.S. (Lond.), Honorary Surgeon to Leeds General Infirmary. Cloth. Price, $2 net. Pp. 260. Philadelphia: W. B. Saunders Co., 1910.

SIXTEENTH ANNUAL REPORT OF THE MANAGERS AND OFFICERS OF THE CRAIG COLONY FOR EPILEPTICS, SONYEA, LIVINGSTON COUNTY, N. Y. Transmitted to the Legislature Jan. 5, 1910. Paper. Pp. 143.

THIRTY-SECOND ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC HEALTH, AUGUSTA, GA., 1910. For the Fiscal Year Ending Nov. 30, 1909. Paper. Pp. 85.

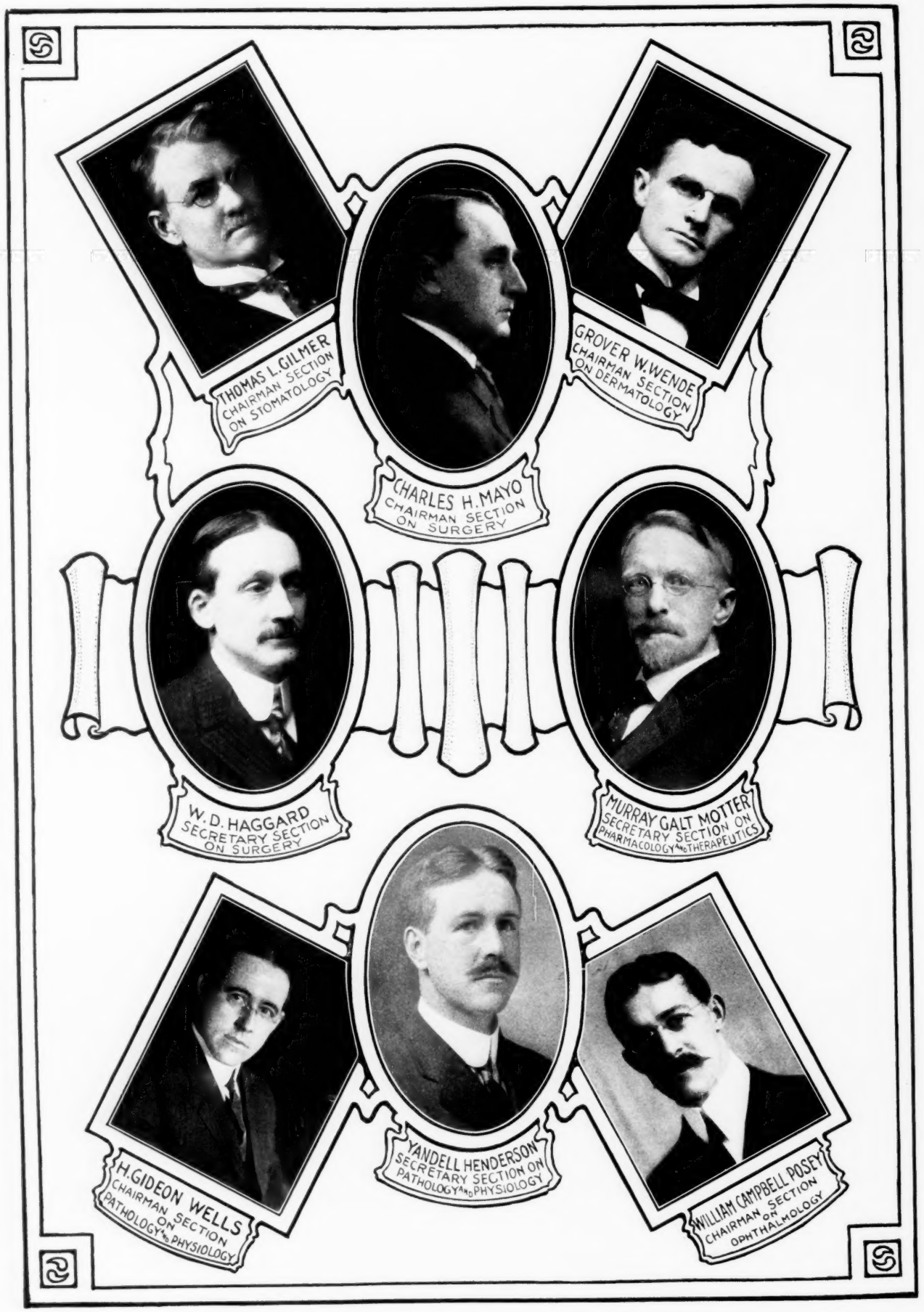
FOURTEENTH ANNUAL REPORT OF THE STATE MEDICAL BOARD, STATE OF OHIO. For the Year Ending Dec. 31, 1909. Paper. Pp. 68.

ANNUAL REPORT OF THE HEALTH DEPARTMENT OF THE CITY OF RICHMOND, VA. For the Year Ending Dec. 31, 1909 Paper. Pp. 110.

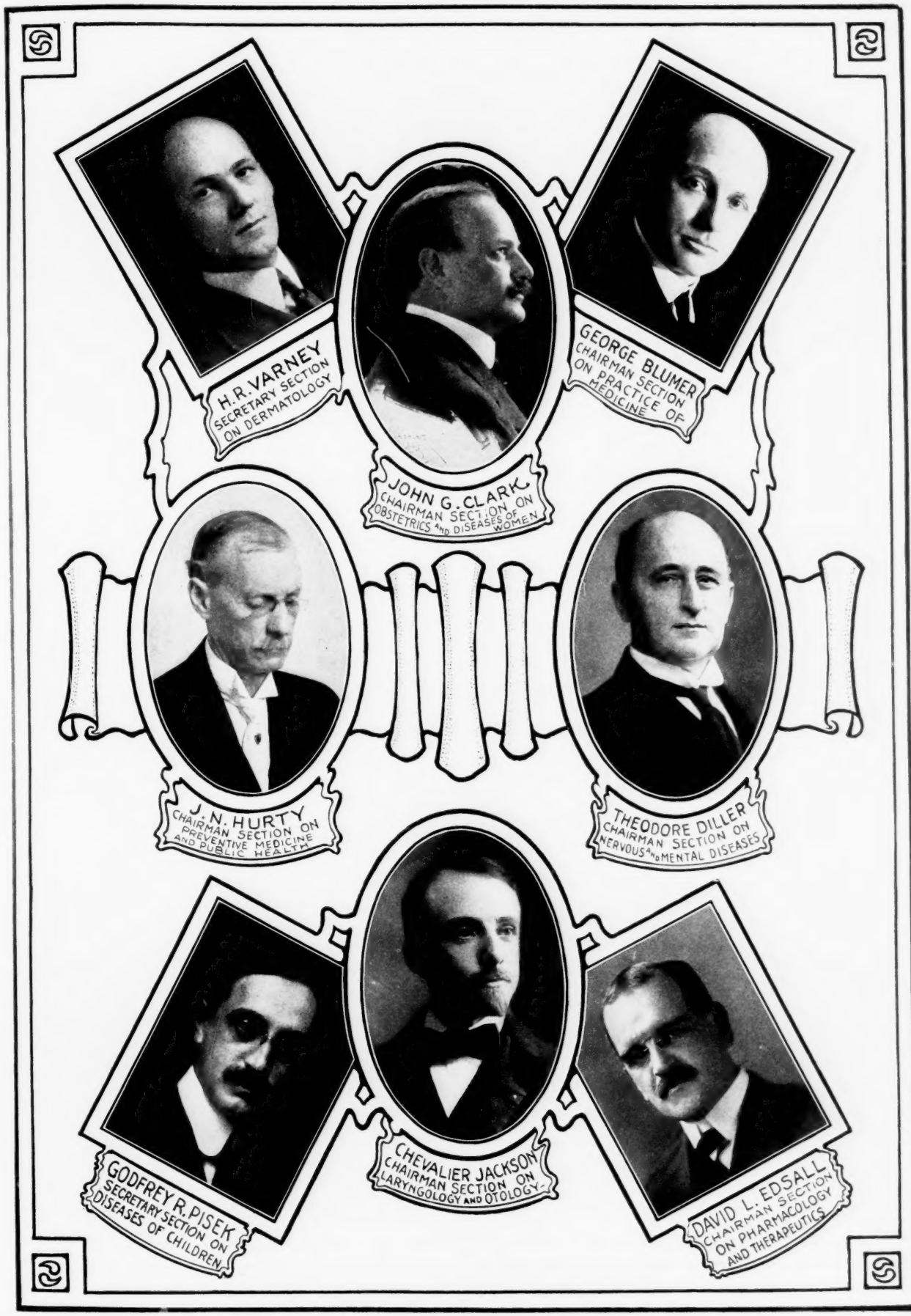


William H. Welch,

PRESIDENT AMERICAN MEDICAL ASSOCIATION, 1910-1911



SOME OF THE SECTION OFFICERS


H.R. VARNEY
SECRETARY SECTION ON DERMATOLOGY
JOHN G. CLARK
CHAIRMAN SECTION ON OBSTETRICS AND DISEASES OF WOMEN
GEORGE BLUMER
CHAIRMAN SECTION ON PRACTICE OF MEDICINE
J.N. HURTY
CHAIRMAN SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH
THEODORE DILLER
CHAIRMAN SECTION ON NERVOUS AND MENTAL DISEASES
GODFREY R. PISEK
SECRETARY SECTION ON DISEASES OF CHILDREN
CHEVALIER JACKSON
CHAIRMAN SECTION ON LARYNGOLOGY AND OTOLOGY
DAVID L. EDSALL
CHAIRMAN SECTION ON PHARMACOLOGY AND THERAPEUTICS

SOME OF THE SECTION OFFICERS

U of M